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ALIGNMENTS

RESULT 1 AAB72247 17-AUG-1999; Colostrinin; immune response; cytokine; blood cell proliferation; central nervous system disorder; neurological diosrder; mental didementia; neurodegenerative disease; Alzheimer's disease; psychos 17-AUG-2000; 2000WO-US22818 WO200111937-A2. Colostrinin derived cytokine inducing peptide SEQ ID 2. 14-MAY-2001 (first entry) AAB72247 standard; peptide; 17 (TEXA) UNIV TEXAS SYSTEM. (REGE-) REGEN THERAPEUTICS PLC. 22-FEB-2001. Synthetic. neurosis; AAB72247; 9908-0149311. A psychosis;

Inducing a cytokine and modulating an immune response, useful for treating central nervous system diseases and bacterial and viral

WPI; 2001-202804/20.

Stanton GJ,

Hughes TK,

Boldogh I,

Georgiades

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Best Local S
Matches 17
                            The present invention relates to a method for modulating the oxidative stress level in a cell or a patient, comprising contacting the cell with, or administrating to the patient, an oxidative stress regulator selected from colostrinin, or its constituent peptide (e.g. the present peptide), to change the level of an oxidating species in the cell. The method can be used to treat oxidative damage to skin, by decreasing or preventing an increase in the level of damage to a biomolecule of the patient.
                                                                                                                                            Claim 6;
                                                                                                                                                                     Modulating oxidative stress level in a cell, involves cell with an oxidative stress regulator selected from constituent peptide, analog or their combinations
                                                                                                                                                                                                                              MPI; 2001-218342/22
                                                                                                                                                                                                                                                         Stanton
                                                                                                                                                                                                                                                                                     (TEXA ) UNIV
                                                                                                                                                                                                                                                                                                                 17-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Colostrinin peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        inducing cytokine production, for modulating an immunological response and for inducing blood cell proliferation. The peptides are useful in t treatment of disorders of the central nervous system, neurological disorders, mental disorders, dementia, neurodegenerative diseases, Alzheimer's disease, motor neurone disease, psychosis, neurosis, chronidisorders of the immune swarps.
                                                                                                                                                                                                                                                                                                                                                                        22-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                    WO200112650-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dermatological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB72501;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB72501 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alzheimer's disease, motor neurone disease, psychosis, neurosis, cidisorders of the immune system, bacterial and viral infections and acquired immunological deficiencies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptides have immune response modulatory activity, and are capable of inducing cytokines. Colostrinin and its derived peptides are useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequences AAB72246 - AAB72275 represent peptides derived from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        infections, regulator -
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                                                                                                                                         Page 25; 48pp; English.
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                                                                                                                                                                                                                                                                                                                                            2000WO-US22665
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         oxidative stress regulator;
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                         decreasing or preventing ule of the patient.
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                                                                                                                                                                                  contacting the colostrinin, its
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Sequence

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Sheep; colostrinin; proline rich polypeptide; colostrum;

immune disorder;

fragment

A-1.

Ewe colostrinin 21-MAR-2001

(first

entry)

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AAB59310
XAXEXEX
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Best Local
                                                                                                                                                                                                        The present invention relates to a method for promoting neural cell differentiation and treating damaged neural cells, using colostrinin and colostrinin constituent peptides (e.g. the present peptide) as a neural cell regulator. Colostrinin is a polypeptide complex found in colostrum.
                                                                                                                                                                                                                                                                  Use of colostrinin, its constituent peptide or analog as a neural regulator, for promoting neural cell differentiation and treating damaged neural cells in a patient -
                                                  AAB59310;
                                                                   AAB59310 standard;
                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                   Claim 6; Page 21; 35pp; English
                                                                                                                                                                                                                                                                                                                        Boldogh
                                                                                                                                                                                                                                                                                                                                                           17-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                colostrum.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB72533 standard; Peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disease, Alzheimer's disease, psychosis and neurosis, immune system disorders such as bacterial and viral infections, to improve the development of a child's immune system, as a dietary supplement, and promote the dissolution of beta-amyloid plaques.
                                                       02-JUN-1999;
                                                                                                                                                   Ovis sp
                                                                                                                                                                                                        Ewe colostrinin peptide fragment derived sequence #1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention provides the sequences of a number of peptides found in ewe's colostrinin. Colostrinin is the proline-rich polypeptide fragment of colostrum. These peptides can be used in the treatment of central nervous system disorders such as senile dementia, Parkinson's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ving an N-terminal amino acid sequence isolated from and immune system, viral and bacterial infections, and diseases characterized by amyloid plaques
                                                                             02-JUN-2000; 2000WO-GB02128
                                                                                                      14-DEC-2000
                                                                                                                            WO200075173-A2
                                                                                                                                                                          central
                                                                                                                                                                                     Sheep; colostrinin;
                                                                                                                                                                                                                                    21-MAR-2001
                                                                                                                                                                                                                                                            AAB59341;
                                                                                                                                                                                                                                                                                  AAB59341 standard; Peptide; 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
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                                (REGE-) REGEN THERAPEUTICS PLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 7; Page 27; 63pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-JUN-1999;
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                                                                                                                                                                         nervous
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                                                       99GB-0012852
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                                                                                                                                                                         system
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                                                                                                                                                                        proline rich
tem disorder;
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                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                     Score 89;
Pred. No.
                                                                                                                                                                                                                                                                                   A.
                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                     polypeptide; colostrum; immune disorder;
dietary supplement; beta-amyloid plaque.
                                                                                                                                                                                                                                                                                                                                                                                                    1.2e-07;
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                                                                                                                                                                                                                                                                                                                                                                                                                22;
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1 LOTPOPLLOVMMEPOGD 17

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Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                        The present invention provides the sequences of a number of peptides found in ewe's colostrinin. Colostrinin is the proline-rich polypeptide fragment of colostrum. These peptides can be used in the treatment of central nervous system disorders such as senile dementia, Parkinson's disease, Alzheimer's disease, psychosis and neurosis, immune system disorders such as bacterial and viral infections, to improve the development of a child's immune system, as a dietary supplement, and to
                                                                                              Sequence
                                                                                                                                 promote
                                                                                                                                                                                                                                                                                         Claim 8; Page 27; 63pp;
                                                                                                                                                                                                                                                                                                                    Peptides having an N-terminal amino acid sequence isolated from colostrinin for treating e.g. disorders of the central nervous system and immune system, viral and bacterial infections, and diseases characterized by amyloid plaques -
                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-071058/08.
                                                                                                                               the dissolution of beta-amyloid plaques
                                                                                              18
         Conservative
                                                                                              ₽,
                       100.0%;
                                                                                                                                                                                                                                                                                         English.
         0
                       Score 89;
Pred. No.
       Mismatches
                       DB 22;
1.3e-07;
                                       Length 18;
     Indels
     0
     Gaps
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RESULT
AAE07185
                                                                                                                                            Colostrinin; nootropic; neuroprotective; immunomodulatory; antibacterial; Parkinson's disease; Alzheimer's disease; mental disorder; food additive; central nervous system disorder; neurodegenerative disorder; weight loss; beta-amyloid plaque; psychosis; neurosis; cachexia; motor neuron disease;
WO200155199-A1.
                                                   Unidentified.
                                                                                                                               acquired
                                                                                                                                                                                                                                                                                      Colostrinin
                                                                                                                                                                                                                                                                                                                                         06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                AAE07185;
                                                                                                                                                                                                                                                                                                                                                                                                                                           AAE07185 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 lqtpqpllqvmmepqgd 18
                                                                                                                         immunological deficiency; neurological disorder; dementia;
                                                                                                                                                                                                                                                                                   peptide
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02-AUG-2001

26-JAN-2000; 2000GB-0001825. 26-JAN-2001; 2001WO-GB00329

(REGE-) REGEN

THERAPEUTICS PLC

The invention relates to colostrinin peptide fragments which are useful, inter alia, in the treatment of chronic disorders of the immune system and the central nervous system. Colostrinin peptides are used as a

Peptide useful as an inter alia in the treatment of e.g. disorders the immune system and the central nervous system comprises ten amino-terminal amino acid sequence derived from peptides present in colostrinin -

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WPI; 2001-488775/53.

Claim 1;

Page 15; 40pp; English

colostrinin

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133,3494,24
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AAE07195
ID AAEC
XX AAEC
AC AAEC
XX O6-N
XX Mod1
VX
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Best Local Similarity
Matches 11; Conserv
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Peptide useful as an inter alia in the treatment of e.g. disorders of the immune system and the central nervous system comprises ten amino-terminal amino acid sequence derived from peptides present in colostrinin .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   medicament in the treatment of neurological disorders e.g., dementia, neurodegenerative disorders e.g., Alzheimer's disease, motor neuron disease e.g., Parkinson's disease, mental disorders e.g. psychosis and neurosis, in acquired immunological deficiencies, chronic bacterial and viral infections and diseases characterised by the presence of beta amyloid plaques and as a dietary supplement for bables, small children, adults and senile persons, who have been subjected to chemotherapy or colostrinin peptides are also used as food additives and as an auxillary withdrawal treatment for drug addicts, after a period of detoxification and in persons dependent on stimulants. Colostrinin peptides are used to prepare antibodies and to treat emotional disturbances, e.g. emotional disturbances of psychiatric patients in a state of depression. These
                                                                                         WPI;
                                                                                                                           Georgiades
                                                                                                                                                                                                 26-JAN-2000;
                                                                                                                                                           (REGE-) REGEN THERAPEUTICS PLC
                                                                                                                                                                                                                                  26-JAN-2001; 2001WO-GB00329.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified colostrinin cyclic peptide #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAE07195 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 colostrinin peptides improves the development of immune system in a new born child and to correct the immunological deficiencies in a child. The present sequence is colostrinin peptide 1 related to the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-NOV-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          strinin; nootropic; neuroprotective; immunomodulatory; inson's disease; Alzheimer's disease; mental disorder;
                                                                                       2001-488775/53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                'sl nervous system disorder; sdisease; mental disorder; food additive; myloid plaque; psychosis; neurodegenerative disorder; weight loss; cyd immunological deficiency; neurological disorder; disorder; weight loss; cyd immunological deficiency; neurological disorder; damantin l; cyclic.
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X
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                                                                                                                                                                                                                                                                                                                                        'note= "N-terminal acetyl; this residue forms
.inkage with Gln found at the C-terminal end"
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0.014;
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Example 2;

Page

8; 40pp; English

Claim 3; Pages 312-314; 333pp; English

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AAW80722
ID AAW8
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Best Local
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                                                                                                                                          Baltz RH, Bur
Mills BJ, Nor
Skatrud PL, S
Young Bellido
                                                                                             WPI; 1998-348529/30.
N-PSDB; AAV65279.
                                          Streptococcus pneumoniae nucleic acid sequences - used in DNA chips for evaluating gene expression, and identification of virulence
                                                                                                                                                                                                                                                                                                                                                                                                                                  Streptococcus pneumoniae protein; recombinant; gene expression; DNA virulence; antibody; infection; detection; treatment; hypothetical;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S. pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        viral infections and diseases characterised by the presence of beta amyloid plaques and as a dietary supplement for babies, small children, adults and senile persons, who have been subjected to chemotherapy or have suffered from cachexia or weight loss due to the chronic disease. Colostrinin peptides are also used as food additives and as an auxillary withdrawal treatment for drug addicts, after a period of detoxification and in persons dependent on stimulants. Colostrinin peptides are used to prepare antibodies and to treat emotional disturbances, e.g. emotional disturbances of psychiatric patients in a state of depression. These
                                                                                                                                                                                                                                                                                          09-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                         WO9826072-A1
                                                                                                                                                                                                                                                                                                                                                                                                                      cell wall biosynthetic,
                                                                                                                                                                                                                                                            13-DEC-1996;
                                                                                                                                                                                                                                                                                                                           18-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                        Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW80722;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW80722 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to colostrinin peptide fragments which are useful inter alia, in the treatment of chronic disorders of the immune system and the central nervous system. Colostrinin peptides are used as a medicament in the treatment of neurological disorders e.g., dementia, neurologenerative disorders e.g., Alzheimer's disease, motor neuron
                                                                                                                                                                                                                            (ELIL ) LILLY & CO ELI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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born child and to correct the immunological deficiencies in a child.
The present sequence is modified colostrinin cyclic peptide #1 related to
the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     neurosis,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
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Norris FH,
L, Smith MC,
lido ML;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g., Parkinson's disease, mental disorders e.g. psychosis and in acquired immunological deficiencies, chronic bacterial and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12 AA;
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                                                                                                                                                                                                                                                                                                                                                                                        pneumoniae
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                                                                                                                                                                                                                                                                                          97WO-US22578.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein; 693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62.9%;
                                                                                                                                                        Dehoff BS, Hoskins JA, Jaskunas SR;
Peery RB, Rockey PK, Rosteck PR;
Solenberg PJ, Treadway PJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  b; Score 56; DB
b; Pred. No. 0.0
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                    target; minimal gene set
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0.016;
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AC AAU3
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                                                                         New polynucleotides for antibiotics, comprise se
                                                                                                                             WPI; 2001-611495/70
                                                                                                                  N-PSDB; AAS55499
                                                                                                                                                       Haselbeck R,
Yamamoto RT,
                                                                                                                                                                                                                                                                                                                              21-MAR-2001; 2001WO-US09180,
                                                                                                                                                                                                                                                                                                                                                                                                           Streptococcus pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                               Antisense; prokaryotic cellular proliferation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAU37640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAU37640 standard; Protein; 693 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      from the Streptococcus pneumoniae genome and corresponding protein's sequences (AAW80005 to AAW80728). The protein sequences are classified as hypothetical, cell wall biosynthetic, external target, or minimal gene set proteins. A recombinant host containing a vector comprising any of the above nucleic acids can be used for the recombinant expression of the proteins. The invention also provides a DNA chip having arrayed on it at least 15 base pair fragment of any one or more of these DNA sequences. The DNA chip can be used methods for evaluating gene expression in S. pneumoniae and for identifying virulence genes in S. pneumoniae. Antibodies that selectively bind to the above proteins or peptide fragments can be used to treat S. pneumoniae infection. The antibodies "n aiso be used to detect S. pneumoniae cells."
                                                                                                                                                                                                                                                                                         23-MAY-2000;
                                                                                                                                                                                                                                                                                                       21-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                          27-SEP-2001
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                                                                                                                                                                                             (ELIT-) ELITRA PHARM INC
                                                                                                                                                                                                                          16-FEB-2001;
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                                                                                                                                                                                                                                                                             26-MAY-2000;
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les 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                       antibacterial;
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2000US-242578P.
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Xu HH;
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40.0%;
                                                                         sequences
                                                                    the identification and development equences of antisense nucleic acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  provides DNA sequences (AAV65201 to AAV65304)
                                                                                                                                                                 Zyskind
                                                                                                                                                                                                                                                                                                                                                                                                                                      drug design.
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The invention relates to antisense inhibitors of genes essential to prokaryotic cellular proliferation, their use in identifying the genes, their use in the discovery of novel antibiotics, the essential to

essential

The present invention relates to nucleic acids (AAH90701-AAH90918) encoding polypeptides (AAM01002-AAM01114), which are essential for the viability of a bacterial cell wall. The acronym CFE stands for "CEG For Expression", where CEG stands for "Conserved Essential Gene". The nucleic acids are useful for detecting the presence of proteins essential for the viability of a bacterial cell wall in samples such as cells, tissues,

Claim 27; Pages 344-346; 380pp; English

Example 3;

Seq ID No 13233; 511pp; English

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RESULT
AAM0109
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Best Local
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                                                                                                                      Nucleic acids encoding conserved essential genes involved in bacterial replication which are potential targets for the treatment of antibiotic resistant bacterial infections -
                                                                                                                                                                                N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Antibacterial; vaccine; gene therapy; bacterial cell wall viability; CFE; CEG; Conserved Essential Gene; bacterial infection; antisense therapy; antibiotic resistance.
                                                                                                                                                                                                  WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a wide variety of organisms. The present sequence represents essential prokaryotic cellular proliferation protein. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genes themselves and the encoded proteins. The prokaryotes used are Escherichia coli, Staphylococcus aureus, Salmonella typhi, Klebsiella pneumoniae, Pseudomonas aeruginosa and Enterococcus faecalis. The invention is also useful for the identification of potential new targets for antibiotic development. The antisense nucleic acids can also be used to identify proteins used in prolliferation, to express these proteins, and to obtain antibodies capable of binding to the expressed proteins. The proteins can be used to screen compounds in rational drug discovery
                                                                                                                                                                                                                           Thanassi
                                                                                                                                                                                                                                         Dougherty TJ,
                                                                                                                                                                                                                                                                                                 30-DEC-1999;
                                                                                                                                                                                                                                                                                                                            29-DEC-2000; 2000WO-US35604
                                                                                                                                                                                                                                                                                                                                                                                    WO200149721-A2
                                                                                                                                                                                                                                                                                                                                                                                                               Streptococcus pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CFE 96 protein sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             400 invpepviglmvepk 414
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                                                                                                                                                                                2001-496721/54.
DB; AAH90792.
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6; Conserv
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ed. No. 46;
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Best Local Similarity
Matches 6; Conserv
                                                                                                                New spatially-addressable set of single exon nucleic acid puseful for measuring gene expression in sample derived from breast, comprises number of single exon nucleic acid probes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         biological fluids, blood, serum, nose, ear or throat swabs with ligands, and for detecting corresponding target nucleic acid molecules with complementary sequences. The nucleic acids are also useful for determining whether a genomic nucleic acids are also useful for determining whether a genomic nucleotide sequence of interest is essential for viability of a bacterial cell or whether it resides within an operon, by integrating an exogeneous nucleotide sequence comprising a portion of an open reading frame of the genomic sequence of interest (comprising 200-500 base pairs) into the genomic sequence of interest which confers a selectiable phenotype to the cell, and determining cell viability with a selection agent such as chloramphenicol. The nucleic acids and proteins are also useful as vaccines and for treating bacterial infections with gene therapy and antisense therapy. The nucleic acids
                                                                                                                                                                                     WPI;
                                                                                                                                                                                                                   Penn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 infections with gene therapy and antisense therapy. The nucleic \epsilon also enable identification of targets suitable for the treatment antibiotic resistant bacterial infections.
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                                                                                                                                                                                                                                                (MOLE-) MOLECULAR DYNAMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disease; cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; microarray;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide #2023 encoded by breast cell single exon
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2000US-0632366
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2000US-0207456
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                                                                                                                                                                                                                 DR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene expression; breast;
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46;
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LIVERLION RELATES TO A SPATIALLY-addressable set of single exon leic acid probes for measuring gene expression in a sample derived m human breast and BT 474 cells. The method involves contacting probes with a collection of detectably labelled nucleic acids took from moun of because the detectably labelled nucleic acids

and then measuring

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form

part

invention relates to a spatially-addressable set

The Claim 27;

SEQ

ID NO 12340;

327pp + sequence listing;

English.

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Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
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26-MAY-2000;
30-JUN-2000;
measuring human gene expression in a sample derived from human foetal liver. The single exon nucleic acid probes may be used for predicting, measuring and displaying gene expression in samples derived from human fetal liver. The present sequence is a peptide encoded by a single exor nucleic acid probe of the invention.

Note: The sequence data for this patent did not form part of the
                                                                                                           Claim
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                                                                             The invention relates to a single exon nucleic acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
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                                                                                                                                 genome-derived single exon nucleic acid probes the gene expression in human fetal liver -
                                                                                                          27;
                                                                                                                                                                                                                             MOLECULAR DYNAMICS
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2000US-0608408
2000US-0632366
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Best Local
                     specification, at ftp.win
                              probe. The probes may be used for predicting, measuring and displaying gene expression in samples derived from the human heart via microarrays. By measuring gene expression, the probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human heart and vascular system e.g. cardiovascular disease, hypertension, cardiac arrhythmias and congenital heart disease. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                               measuring human gene
ABA21535-ABA41305). T
                                                                                                                                                    The present invention relates to single exon nucleic acid probes
                                                                                                                                                                                 Claim 15;
                                                                                                                                                                                                                    Single exon nucleic acid
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26-MAY-2000;
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                                                                                                                                                                                                           hearts
                                                                                                                                                                                                                                                                    Penn SG,
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03-AUG-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    congenital heart
                                                                                                                                                                                                                                                                                            (MOLE-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                            21-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
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                                                                                                                                                                                                                                                                                           MOLECULAR DYNAMICS INC
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                                                                                                                                                                                 SEQ
                                                                                                                                                                                                                                                                    Hanzel DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     83 AA;
                                                                                                                                                                                                                                                                                                                  2000US-0180312.
2000US-0207456.
2000US-0608408.
2000US-0632366.
2000US-0234687.
2000US-0236359.
2000US-0236359.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                   2001WO-US00666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                              ID No 21725; 530pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein;
                                                                                                                             e expression in a sample derived from human heart
The present sequence is a protein encoded by one
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Pred. No.
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Query Match

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standard; Protein; 83

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RESULT

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Sequence

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Matches
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26-MAY-2000;
30-JUN-2000;
                                                                                                                                         The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human brain. They can be used to measure general the property can be used to measure general formers of the diagnosis and improved treatment of nervous system diseases such as Alzheimer's disease, multiple sclerosis, schizophrenia, epilepsy and cancers. The present sequence is a protein encoded by one of
                                                                                                                                                                                                                                                                                                                  Penn
                                                                                                           Sequence
                                                                                                                                the probes
                                                                                                                                                                                                                                Example 4;
                                                                                                                                                                                                                                                                                         WPI; 2001-483446/52
                                                                                                                                                                                                                                                                                                                                                                                                     03-AUG-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           epilepsy; cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; brain expressed exon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human brain expressed single
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                         1 LOTPOPLLOVMMEPQ 15
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                                                                                                                                                                                                                                                           exon nucleic acid probes for analyzing gene expression in human
                                                Similarity
9; Conserv
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9; Conservative
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                                               Conservative
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2000US-0608408.
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                                                                                                                                                                                                                                                                                                                DK,
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ase; multiple sclerosis; schizoph
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AAM67729;

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04-FEB-2000; 2000US-0180312.

26-MAY-2000; 2000US-0207456.

30-JUN-2000; 2000US-0608408.

03-AUG-2000; 2000US-0632366.

21-SEP-2000; 2000US-0234687.

27-SEP-2000; 2000US-0236359.

04-OCT-2000; 2000GB-0024263.
                                                                                                                                                         The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human bone marrow. They can be used to measure gene expression in bone marrow sar ', which may enable the improved diagnosis and treatment of cancers lymphoma, leukaemia and myeloma. The present sequence is a concern the encoded by one of the probes of the invention.
                                                                                                                                                                                                                                                     Example 4; SEQ ID NO: 28035; 658pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                  Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human bone marrow
                                                                                                                                                                                                                                                                                                                                                       Penn SG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; bone marrow expressed exon; gene expression analysis; probe; microarray; cancer; leukaemia; lymphoma; myeloma.
                                                                                                                                                                                                                                                                                                                             WPI; 2001-488900/53.
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                                                                                                                                                                                                                                                                                                                                                                              (MOLE-) MOLECULAR DYNAMICS INC.
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completed: July 31, 2002, 15:23:25 J time: 248 sec

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Minimum DB
Maximum DB
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length: 2000000000
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Copyright (c) 1993 - 2000
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US-09-121-321-16
US-08-933-803A-16
US-08-933-803A-16
US-09-297-937C-13
US-09-297-937C-13
US-09-417-242-2
US-09-417-242-2
US-08-961-739-2
US-08-961-739-2
US-08-961-739-2
US-08-9131-028A-2
US-09-131-028A-2
US-09-131-028A-12
US-08-935-583C-2
US-08-935-583C-2
US-08-935-583C-2
US-08-939-674A-65
                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-718-661-2
US-08-858-003-32
US-09-078-166-32
US-09-97-467-32
US-09-347-83-6
US-08-596-291-4
US-09-100-804-4
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US-08-858-003-32
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Patent No. 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 530 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
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LENGTH: 667 amino acids
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                      APPLICANT: Kakavas, TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
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    OF SEQUENCES:
                                                                                                                                                                                                                       606023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amino acid
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45	44	43	42	41	40	39	38	37	36	35	34	<u>3</u> 3	32	31	30	29	28	
35	ω G	35	35	35 5	36	36	36	36	36	36	36	36	36	36	36	36	36	
39.3	39.3	39.3	39.3	39.3	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	
504	439	439	439	357	4550	4550	4545	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	
۲	ω	ω	ω	<u> </u>	N	N	N	Ç	Ģ	4	4	4	ω	ω	N	N	N	
US-07-932-915-2	US-08-989-358A-2	US-09-221-654-2	US-08-993-359-24	US-08-638-911A-37	US-08-804-198-2	US-08-804-227C-8	US-08-804-227C-14	PCT-US92-00862-2	PCT-US92-00730-2	US-09-583-449A-2	US-09-583-210-2	US-09-583-459A-2	US-08-462-728-4	US-08-980-400-2	US-08-460-490-2	US-08-460-510-2	US-08-475-458-2	
Sequence 2, Appli	Sequence 2, Appli	Sequence 2, Appli	Sequence 24, Appl	•	Sequence 2, Appli	Sequence 8, Appli	Sequence 14, Appl	Sequence 2, Appli	`	Sequence 2, Appli		Sequence 2, Appli	Sequence 4, Appli	2,		٦.	Sequence 2, Appli	

ALIGNMENTS

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GENERAL INFORMATION:

APPLICANT: Katz, Leonard

APPLICANT: Stassi, Diane I

APPLICANT: Summers Jr., Ri

APPLICANT: Ruan, Xiaoan

APPLICANT: Pereda Lopez, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/718,661
                                                                                                                                                                                                                Application US/08858003
Ruan, Xiaoan
Pereda-Lopez, Ana
Pereda-Lopez, Ana
Kakavas, Stephan J.
VENTION: NOVEL POLYKETIDE DERIVATIVES
VENTION: AND RECOMBINANT METHODS FOR EQUENCES: 34
                                                                                                               Summers Jr., Richard
                                                                                                                               Stassi, Diane L.
                                                                                                                                                                                                                                                                                                                                                                                                            50.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic acid molecules coding for mammalian tumor suppressor proteins and methods for their isolation
                                                                                                                                                                                                                                                                                                                                                                                                              Score 45; DB
Pred. No. 20;
                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
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                      MAKING
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CORRESPONDENCE ADDRESS:

ADDRESSEE:

3: Abbott Laboratories 100 Abbott Park Rd.

STREET: 100 Abbott CITY: Abbott Park STATE: Illinois

Illinois

60064-3500

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US-09-078-166-32
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                                                                                                                                                                                                                                                                                                                                                                                       Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 32,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Katz,
APPLICANT: Stassi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
                                                              COMPUTER READABLE FORM: MEDIUM TYPE: Diskette
                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
                                                                                                                                                                                                                             APPLICANT: Ruan, Xiaoan
APPLICANT: Pereda-Lopez, Ana
APPLICANT: Kakavas, Stephan J.
TITLE OF INVENTION: NOVEL POLYKETIDE DERIVATIVES
TITLE OF INVENTION: AND RECOMBINANT METHODS FOR N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 49
TELECOMMUNICATION INFORMATION:
TELEPHONE: (847) 938-3137
TELEPAX: (847)-938-2623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08
FILING DATE: 16-MAY-1979
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 343 amino
TYPE: amino acid
STRANDEDNESS: sing
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       42 QLPRPLKDVLFAPEG 56
                                 OPERATING SYSTEM:
                                                  COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Dianne Casuto
REGISTRATION NUMBER: P-40,943
                                                                                                                                                                STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity es 7; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM:
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ARE: FastSEQ Version 2.0 APPLICATION DATA:
                                                                                                                                                  Abbott Park
                                                                                                                                                                                                                                                                                                                                                                                    2, Application US/09078166
6063561
                                                                                                 60064-3500
                                                                                                                                 Illinois
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                                                                                                                                                                100 Abbott Park Rd
                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                   Summers Jr., Richard G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                    Katz, Leonard
                                             IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            No. 6060234e
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46.78;
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US-08-997-467-32
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                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/8:
FILING DATE: 16-MAX-11997
ATTORNEY/AGENT INFORMATION:
NAME: Dianne Casuto
                                                                                                                                                                                       SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: P-40,94
REFERENCE/DOCKET NUMBER: 49:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (847)-938-3137
             TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Pereda-Lopez, Ana
APPLICANT: Kakavas, Stephan J.
TITLE OF INVENTION: NOVEL POLYKETIDE DERIVATIVES
TITLE OF INVENTION: AND RECOMBINANT METHODS FOR MAKING SAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 343 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                          COUNTRY: USA
                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                     COMPUTER: IBM CONTROL OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: sin
TOPOLOGY: linear
                              REFERENCE/DOCKET NUMBER: P-4
                                                                                                                                                                                                                                                                                                                        CITY: Abbott Park STATE: Illinois
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity les 7; Conserv
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                                                                                                                                                              FILING DATE:
                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                    STREET:
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ELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 QTPQPLLQVMMEPQG 16
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                                                                                                                                                                                                                                                                                                                                                      100 Abbott Park Rd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Stassi, Diane L.
Summers Jr., Richard G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ruan,
                                                                                                                                                                                                                                      IBM Compatible
(847)-938-3137
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46.78;
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BER: 4952.US.P2
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                              P-40,943
ER: 4952.US.P2
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; LENGTH: 428
; TYPE: PRT
; ORGANISM: Glycine max
US-09-347-833-6
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SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 6, Application US/09347833 Patent No. 6294658
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EARLIER APPLICATION NUMBER: 60/092,415
EARLIER FILING DATE: July 10, 1998
NUMBER OF SEQ ID NOS: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/347,833
                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IIILE OF INVENTION: Factors Involved in Gene Expression
FILE REFERENCE: BB-1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Famodu, Layo O.
APPLICANT: Odell, Joan T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 343 amino acids
                                                                                                                                                                     APPLICANT: HELDIN, CARL-HENRIK
TITLE OF INVENTION: PRIMARY STRUCTURE AND FUNCTIONAL
TITLE OF INVENTION: EXPRESSION OF NUCLEOTIDE SEQUENCES FOR NOVEL PROTEIN
TITLE OF INVENTION: TYROSINE PHOSPHATASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear MOLECULE TYPE: No. 6200813e
                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: WOLF, GRE
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                   273 QQPMPMMQQQMLPRG 287
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   42 QLPRPLKDVLFAPEG 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
                                       COUNTRY: UZIP: 02210
                                                                                       CITY: BOSTON
                                                                                                       STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 QTPQPLLQVMMEPQG 16
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                                                                     MASSACHUSETTS
                                                                                                                                                                                                                                                                                                                               Application US/08596291
                                                                                                  E: WOLF, GREENFIELD & SACKS, P.C. 600 ATLANTIC AVENUE
                                                                                                                                                                                                                                         CLAESSON-WELSH, LENA
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                                                     USA
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46.78;
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46.78;
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Pred. No.
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Pred. No. 52;
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RESULT 7
US-09-100-804-4
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Patent No.
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TELEX: 92-1742 EZEKIEL
INFORMATION FOR SEQ ID NO:
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APPLICATION NUMBER: US 08,
FILING DATE: 01-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: GATES, EDWARD R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET:
STREET
                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 09-AUG-1996
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                                                      APPLICATION NUMBER: US 0: FILING DATE: 01-SEP-1993 PRIOR APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: HELDIN, CARL-HENRIK
TITLE OF INVENTION: EXPRESSION OF NUCLEOTIDE SEQUENC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
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                                                                                                                                                                                                                                                                                    CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE:
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                                        APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             600 ATLANTIC AVENUE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WOLF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Floppy disk
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01-SEP-1994
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                                PCT/US94/09943
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Pred. No. 5
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Best Local :
                                                                           TELEFAX: 617/720-2441
TELEX: 92-1742 EZEKIEL
INFORMATION FOR SEQ ID NO: 4:
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SEQUENCE CHARACTERISTICS:
                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                REFERENCE/DOCKET NUMBER: LO TELECOMMUNICATION INFORMATION: 617/720-3500
                                                                                                                                                                                            APPLICATION NUMBER: US 08
FILING DATE: 01-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: TWOMEY, MICHAEL J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
STREET: 600 ATLANTIC AVENUE
                                                                                                                                                                                                                                                                 CLASSIFICATION: PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Rel
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TITLE OF INVENTION:
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NAME: GATES, EDWARD R.
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                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: FILING DATE: 01-SE
                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                      TOPOLOGY:
                                                 LENGTH:
                                                                                                                                                                                  REGISTRATION NUMBER:
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                                amino acids
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amino acid
TYPE: protein
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                    linear
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47.4%;
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Pred. No. 5
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US-08-933-803A-16
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Best Local Similarity
"hes 8; Conserv
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US-09-121-321-16
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                                               Sequence 16, Application US/08933803A Patent No. 6218522
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Best Local Similarity
Matches 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/933,803
FILING DATE: 19-SEP-1997
ATTORNEY/AGENT INFORMATION:
NAME: Haley, James F.
REGISTRATION NUMBER: 27,794
REFERENCE/DOCKET NUMBER: SHON-12CIP
TELECOMMUNICATION INFORMATION:
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                                 GENERAL INFORMATION:
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APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
 APPLICANT:
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MEDIUM TYPE: Floppy disk
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APPLICANT: Igarashi, Hisanaga
APPLICANT: Okumura, Kouichi
APPLICANT: Sakaguchi, Gaku
TITLE OF INVENTION: DNA MOLECULE RELATING TO SUPPRESSION OF
TITLE OF INVENTION: GENE EXPRESSION AND NOVEL PROTEIN
NUMBER OF SEQUENCES: 20
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ADDRESSEE: FISH & NEAVE
                                                                                                                                                415 QPPQPQLQSQPQPQ 428
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Saiga, Akihiko
Orita, Satoshi
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47.4%; Pred. No. 5
                                                                                                                                                                                                                            44.98;
57.18;
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                                                                                                                                                                                                                             Score 40; Pred. No. 1
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1.2e+02;
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                                                                                                                                                                                                                                                                                                                                                                           Patent No.
                                                                                                                                                                                                                                                                                                                                                                                           Sequence 456, Application US/08858207A
                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
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                                                                          COUNTRY: USA
ZIP: 19406-0939
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: SmithKline Beecham Corporation STREET: 709 Swedeland Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Haley, James F.
REGISTRATION UMBER: 27,794
REFERENCE/DOCKET NUMBER: SH
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDLIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0
            COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                   APPLICANT: Stodola, Robert
TITLE OF INVENTION: No. 6348328el Compounds
NUMBER OF SEQUENCES: 552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/933,803A
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                                                                                                                                                                                                                                                                                           APPLICANT:
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                                                                                                                                                                                                                                                                                                                                        APPLICANT: Black, Michael
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                415 QPPQPQLQSQPQPQ 428
                                                                                                                                                                   CITY: King of Prussia
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CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: New York
STATE: New York
 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
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amino acid
GY: linear
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Knowles, David
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ON: 536
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US/08/858,207A
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Pred. No. 1
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Query Match
Best Local Similarity
Thehes 7; Conserve
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                                                                                                                                                        ; TYPE: PRT ; ORGANISM: Erwinia cypripedii US-09-297-937C-13
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                                                                                                                                                                                                           SEQ ID NO 13
LENGTH: 1276
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APPLICANT: YUM, Do Young
APPLICANT: PAN, Jae Gu

APPLICANT: PAN, Jae Gu

TITLE OF INVENTION: Membrane-Bound Gluconate Dehydrogenase, Gene Sequence
TITLE OF INVENTION: Encoding the Same and Production of 2-Keto-D-Gluconate
FILE OF INVENTION: Using Transformed Recombinant E. Coli
FILE REFERENCE: P66159US0

CURRENT APPLICATION NUMBER: US/09/297,937C

CURRENT FILING DATE: 1999-05-11

PRIOR APPLICATION NUMBER: PCT/KR98/00296

PRIOR APPLICATION NUMBER: KR 97-48802

PRIOR PILING DATE: 1999-09-25

PRIOR FILING DATE: 1997-09-25
                                                                                                                                                                                                                                              SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 13
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LENGTH: 179 amino acids
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APPLICATION NUMBER: 60/017670
FILING DATE: 14-MAY-1996
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826 LKNPGPLVQAMMK 838
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REGISTRATION NUMBER: 38,891
REFERENCE/DOCKET NUMBER: P5
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nes 8; Conserv
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                              1 LQTPQPLLQVMME 13
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Pred. No. 5.
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US-09-225-244-2

GENERAL INFORMATION:
APPLICANT: Boung-Jun OH

Sequence 2, Application US/09225244 Patent No. 6018038

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US-08-194-468-2
; Sequence 2, Application US/08194468
; Patent No. 5750336
; GENERAL INFORMATION:
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·; ORGANISM: Capsicum annuum
US-09-417-242-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 2
SOFTWARE: Wordperfect 6.1 Windows
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APPLICANT: Igor KOSTENYUK
TITLE OF INVENTION: Incompatible Plant and Pathogen Interaction Related Gene
FILE REFERENCE: 1942/35
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APPLICANT: Igor KOSTENYUK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Boung-Jun OH
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SOFTWARE: Wordperfect 6.1 Windows
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CURRENT FILING DATE: 1999-01-04
EARLIER APPLICATION NUMBER: NO. 6018038 YOUR PROPERTY OF THE PROPERT
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TYPE: PRT
ORGANISM: Capsicum annuum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENGTH:
                                                   NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pretty, Schroeder, Brueggemann & Clark
STREET: 444 South Flower Street, Suite 2000
                                                                                                                                                                                                                              APPLICANT: MONTMINY, MARC R.
TITLE OF INVENTION: ASSAYS FOR THE IDENTIFICATION OF
TITLE OF INVENTION: COMPOUNDS WHICH INHIBIT ACTIVATION OF CAMP AND MITOGEN
                                                                                                                                                                                                       TITLE OF INVENTION:
27 VRKPEPLTQANSDPNG 42
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1.7e+02;
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QΥ
Search completed: July 31, 2002, 15:23:44 Job time: 147 sec
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                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/194,468
FILING DATE: 10-FEB-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                               TELEFAX: (619)-546-9392
INFORMATION FOR SEQ ID NO: 2:
                                                                                   1902 QTPQPPAQPQPSPVNMSPAG 1921
                                                                                                                                                                                                                                                          TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 2441 amino aci
                                                                                                                                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION: TELEPHONE: (619)-546-4737
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION: NAME: Reiter, Stephen E.
                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Reiter, Stephen E. REGISTRATION NUMBER: 31,192
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10-FEB-1994
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Maximum Match 10
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Match
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1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
  July 31, 2002, 15:21:52; Search time 15.13 Seconds (without alignments)
107.966 Million cell updates/sec
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A; Residues: 1-709 <STO>
A; Cross-references: GB:AE005176; PID:g12725331; PIDN:AAK06358.1;
A; Experimental source: strain IL1403
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Bolotin, A.; Wincker, P.; Mauger, S.; Jaillon, O.; Malarme, K.; Weissenbach, J.; Eh Genome Res. 11, 731-753, 2001
A;Title: The combete genome sequence of the lactic acid bacterium Lactococcus lactis A;Reference number: A86625; MUID:21235186; PMID:11337471
A;Accession: D86907
A;Status: preliminary
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C;Superfamily: translation elongation factor G;
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translation elongation factor Tu

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GSPDB:GN00146

ALIGNMENTS

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A; Reference number: AB1077; MUID:21537279; PMID:11679669 A; A; Coession: AF1753 A; Status: preliminary A; Molecule type: DNA A; Residues: 1-192 <gla> A; Cross-references: GB:AL592022; PIDN:CAC97798.1; PID:g16415093; GSPDB:GN00178 A; Experimental source: strain Cip11262 C; Genetics: C; Genetics: A; Gene: lin2571</gla>	Dominguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Fsihi, D.; Jones, L.M.; Karst, U. Science 294, 849-852, 2001 A; Authors: Kreft, J.; Kunn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A., ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehlalok, C.; Schlueter, T.; Simoes, R.; Wehlalok, C.; Schlueter, T.; Simoes, R.; Wehlalok, C.; Schlueter, T.; Sch	RESULT 2 AF1753 Orf50 [bacteriophage bIL285] homolog lin2571 [imported] - Listeria innocua (strain Cl) C;Species: Listeria innocua C;Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 27-Nov-2001 C;Accession: AF1753 R;Glaser, P, : Frangeni, L.: Buchrieser, C,: Amend, A.: Baquero, F.: Berche, P,: Bloect	QY 1 LQTPQPLLQVMMEPQ 15 :: : : : : : Db 415 IEVPEPVIQLMVEPK 429	Query Match S3.9%; Score 48; DB 2; Length 709; Best Local Similarity 40.0%; Pred. No. 5.6; Matches 6; Conservative 8; Mismatches 1; Indels 0; Gaps 0;

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A; Gene: SP0273
C; Superfamily:
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A;Accession: B95032
                                                                                                                                                                                                                                                                                                                R;Tettelin, H.; Nelson, K.E.; Paulsen, I.T.; Eisen, J.A.; Read, T.D.; Peterson, S.; Hei
on, J.D.; Umayam, L.A.; White, O.; Salzberg, S.L.; Lewis, M.R.; Radune, D.; Holtzapple,
nson, T.; Hickey, E.K.; Holt, I.E.
                                                                                                                                                                                                                                                                                                                                                                  translation elongation factor G [imported] - Streptococcus pneumoniae (strain C;Species: Streptococcus pneumoniae C;Date: 03-Aug-2001 #sequence_revision 03-Aug-2001 #text_change 24-Aug-2001 C;Accession: B95032
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C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change
                                                                                                                                                         A;Residues: 1-693 <KUR>
A;Cross-references: GB:AEO05672; PIDN:AAK74451.1;
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F;128-131/Region: GTP-binding NKXD motif
F;220-222/Region: GTP-binding SAK/L motif
F;16,17,55,128,129,131,220/Binding site: Mg-GTP (Lys,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Sanchez-Pescador, R.; Brown, J.T.; Roberts, M.; Urdea, M.S. Nucleic Acids Res. 16, 1216-1217, 1988
A;Title: The nucleotide sequence of the tetracycline resistance A;Reference number: S03268; MUID:88144009
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A; Residues: 1-639 <SAN>
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   h 51.7%;
Similarity 40.0%;
6; Conservative
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7; Conser
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9; Conserv
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                                                                                        translation elongation
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 Score 46; DB Pred. No. 12; 7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4;
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Pred. No. 11;
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Pred. No. 1.5;
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phosphoneuroprotein 14 - bovine N;Alternate names: brain-specific protein, C;Species: Bos prinigenius taurus (cattle) C;Date: 19-May-1994 #sequence_revision 05-MC;Accession: S39046; JU0238 R;Nakajo, S.; Tsukada, K.; Omata, K.; Nakan Eur. J. Biochem. 217, 1057-1063, 1993
                                                                                                                      RESULT
S39046
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Best Local Similarity
"-+-hes 6; Conserv
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S44430
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A;Gene:
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R; Jakes, R.; Spillar
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R;Hoskins, J.A.; Alborn Jr.,
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C; Species:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEBS Lett.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-693 <KI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Status: preliminary
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40.0%;
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                   Nakamura, Y.;
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A;Title: Identification of two distinct synucleins A;Reference number: $44430; MUID:94252398
A;Accession: $44430
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Authors: Yang, Y.; Young-Bellido, M.; Zhao, G.; Zook, C.; Baltz, R.H.; Jaskunas, A;Title: Genome of the Bacterium Streptococcus pneumoniae Strain R6.
A;Reference number: A97872; MUID:21429245; PMID:11544234
A;Accession: B97903
                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: mRNA
A;Residues: 1-134 <JAK>
A;Cross-references: GB:S69965; NID:g546911; PIDN:AAB30860.1; PID:g546912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Homo sapiens (man)
C;Date: 07-Oct-1994 #sequence_revision 10-Nov-1995
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  skins, J.A.; Alborn Jr., W.; Arnold, J.; Blaszczak, L.; Burgett, S.; DeHoff, B.S..; LeBlanc, D.J.; Lee, L.N.; Lefkowitz, E.J.; Lu, J.; Matsushima, P.; McAhren, S..; Sun, P.M.; Winkler, M.E. acteriol. 183, 5709-5717, 2001
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                                                                                                                                                                                                                                                                           Score 44;
Pred. No.
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Pred. No.
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05-May-1995 #text_change
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Nakaya,

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A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khay C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, S.A.; Luros, J.S.; Mait Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H. A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W. A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis. A;Reference number: A86141; MUID:21016719
                                                                                                                                                                                                                                        C;Date: 02-Mar-2001 #sequence_revision
C;Accession: C96534
R;Theologis, A.; Ecker, J.R.; Palm, C.J
Chin, C.W.; Chung, M.K.; Conn, L.; Con
ansen, N.F.; Hughes, B.; Hulzar, L.
Nature 408, 816-820, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Tobe, T.; Nakajo, S.; Tanaka, A.; Mitoya, A.; Omata, K.; Na
J. Neurochem. 59, 1624-1629, 1992
A;Title: Cloning and characterization of the cDNA encoding a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphoneuroprotein 14 - rat
C:Species: Rattus sp. (rat)
C:Date: 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 05-Nov-1999
                                                                                A; Reference number: A86141; A; Accession: C96534
                                                                                                                                                                                                                                                                                                                                     probable Poly-A Binding Protein [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 23-Mar-2001
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C; Keywords: brain
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A; Accession: JU0238
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: protein A; Residues: 1-134 < NAK>
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                        A; Molecule type: DNA
A; Residues: 1-671 <S
                                                              A; Status: preliminary
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A; Cross-references: GB:D17764; NID:g409780;
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A; Residues: 1-137 < RES>
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A;Cross-references: GB:AE005173; NID:g10120431; PIDN:AAG13056.1; GSPDB:GN00141
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Best Local
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les 6; Conserv
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                        1-671 <STO>
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  K.; Nakamura, Y.; Nakaya,
                                                                                                                                                                                                                                                                             C.J.; Federspiel, N.A.; Kaul, S.; W Conway, A.B.; Conway, A.R.; Creasy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
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                                                                                                                                                         Southwick, A.M.; Sun,
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Maiti, R.;
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C;Superfamily: translation elongation factor G; translation elongation factor C;Keywords: antibiotic resistance; GTP binding; nucleotide binding; P-loop F;4-131/Domain: translation elongation factor Tu homology <ETU> F;10-17/Region: nucleotide-binding motif A (P-loon)
                                                                                                                                                                                                                                                                    A;Title: Nucleotide sequence of the tet(M)
A;Reference number: S13142; MUID:91045089
A;Accession: S13142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nature 413, 848-852, 2001
Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.;
A;Title: Complete genome sequence of a multiple drug resistant
                                                                                                                                                                                                                                                                                                                                                                            tetracycline resistance protein tetM - C;Species: Enterococcus faecalis C;Date: 13-Jan-1995 #sequence_revision C;Accession: S13142
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AB0784
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C;Superfamily: polyadenylate-binding protein;
                                                                            A; Gene:
                                                                                                         A; Contents: annotation; function; amino end of purified recombinant A; Note: protein purified after expression in E. coli shown to be ril
                                                                                                                               J. Biol. Chem. 266, 2872-2877, 1991
A;Title: Purification and characterization of Tet(M), a
A;Reference number: A23749; MUID:91131580
A;Contents: annotation; function; amino end of purified
                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-639 <BUR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-134 < PAR>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          conserved hypothetical protein STY2446 [imported] - Salmonella C;Species: Salmonella enterica subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C; Genetics
                                                                                              C; Genetics
                                                                                                                                                                                                         R;Burdett,
                                                                                                                                                                                                                           A;Cross-references: EMBL:X56353; NID:g47061; PIDN:CAA39796.1; PID:g47062
                                                                                                                                                                                                                                                                                                                                                                                                                                                        S13142
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Best Local &
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8; Conser
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Pred. No.
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Pred.
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Davis, P.; Davies, R.M.; Dowd
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A; Reference number: A6
A; Accession: A60633
A; Molecule type: DNA
A; Residues: 1-639 <NES
                                                                          A;Residues: 1-639 < SU1>
A;Residues: 1-639 < SU1>
A;Cross-references: GB:M85225; NID:g148321; PIDN:AAA24784.1; PID:g148322
A;Note: sequence extracted from NCBI backbone (NCBIN:111076) (CSUperfamily: translation elongation factor G; Keywords: antibiotic resistance; GTP binding; nucleotide binding; P-loop F;4-131/Domain: translation elongation factor Tu homology <ETU>
F;10-17/Region: nucleotide-binding motif A (P-loop)
F;128-131/Region: GTP-binding NKXD motif F;220-222/Region: GTP-binding SAK/L motif F;20-222/Region: GTP-binding SAK/L motif
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Date: 28-Apr-1993 #sequence______.
C; Accession: A60633
R; Nesin, M.; Svec, P.; Lupski, J.R.; Godson, G.N.; Kreiswirth, B.; Kornblum, J.;
R; Nesin, M.; Svec, P.; Lupski, J.R.; Godson, G.N.; Kreiswirth, B.; Kornblum, J.;
Antimicrob. Agents Chemother. 34, 2273-2276, 1990
A; Title: Cloning and nucleotide sequence of a chromosomally encoded tetracycline
A: Deference number: A60633; MUID: 91158314
                                                                                                                                                                                                                                                                                                                           R:Su, Y.A.; He, P.; Clewell, D.B. Antimicrob. Agents Chemother. 36, 769-778, 1992 A:Title: Characterization of the tet(M) determinant A;Reference number: A56779; MUID:92368175 A;Accession: A56779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: GB:M21136; NID:g153114; PIDN:AAA26678.1; PID:g153115 (SUperfamily: translation elongation factor G; translation elongation fact C;Keywords: antibotic resistance; GTP binding; nucleotide binding; P-loop E;4-131/Domain: translation elongation factor Tu homology <ETU> E;10-17/Region: nucleotide-binding motif A (P-loop) E;128-131/Region: GTP-binding MXXD motif E;220-222/Region: GTP-binding SAK/L motif E;26,129,131,220/Binding site: Mg-GTP (Lys, Thr, Thr, Asn, Lys, F;16,17,55,128,129,131,220/Binding site: Mg-GTP (Lys, Thr, Thr, Asn, Lys, F)
                                                                                                                                                                                                                                                                                                                                                                                                                                      tetracycline resistance protein TetM - Enterococcus faecalis trac; Species: Enterococcus faecalis C; Species: De-Sep-1995 #sequence_revision 08-Sep-1995 #text_change C; Accession: A56779
                                                                                                                                                                                                                                                                                           A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                              A; Status: preliminary
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F;220-222/Region: GTP-binding SAK/L motif
F;16,17,55,128,129,131,220/Binding site: Mg-GTP
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Best Local
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    48.3%;
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Science 294, 849-852, 2001
A; Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; A; Title: Comparative genomics of Listeria species.

A; Reference number: AB1077; MUID:21537279; PMID:11679669
                                                                                                                                                                                                                                                                                                                                                                     C;Date: 4/-w. C;Date: 6/- RC;Baccession: AF182 C;Accession: AF182 R;Glaser, P.; Frangeul, L.; Buchrieser, C.; Am R;Glaser, P.; Frangeul, G.; Duchaud, E.; Durand, .; Dominguez-Bernal, G.; Duchaud, E.; Durand, .; M.; Karst, U.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D: Jones, L.M.; Karst, U.
Science 294, 849-852, 2001
A;Authors: Kreft, U.; Kuhn, M.; Kunst, F.; Kurapkat, G.;
ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-E
A;Title: Comparative genomics of Listeria species.
A;Reference number: AB1077; MUID:21537279; PMID:11679669
A;Accession: AE1406
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C;Superfamily: translation elongation
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C;Accession: AE1406
R;Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero,
                                                                                                                          A; Gene: fus
C; Superfamily:
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C; Date: 27-Nov-2001
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A; Residues: 1-695 <G
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A;Experimental source: strain Clip11262
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16-OCT-2001 (Rel. 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ferretti J..., McShan W.M., Ajdic D.J., Savic D.J., Savic G., Lyon K., Primeaux C., Sezate S., Suvorov A.N., Kenton S., Lai H.S., Lin S.P., Qian Y., Jia H.G., Najar F.Z., Ren Q., Zhu H., Song L., White J., Yuan X., Clifton S.W., Roe B.A., McLaughlin R.; "Complete genome sequence of an M1 strain of Streptococcus pyogenes."; Proc. Natl. Acad. Sci. U.S.A. 98:4658-4663(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN-SF370 / ATCC 700294 / Serotype
MEDLINE-21192684; PubMed=11296296;
           Pfam; PF00679; EFG_C; 1.

Pfam; PF00009; GTP_EFTU; 1.

Pfam; PF03144; GTP_EFTU_D2; 1.

PRINTS; PR00315; ELONGATMFCT.

PROSITE; PS00301; EFACTOR_GTP; 1.
                                                                                                                                                                                                                                                                                                     Submitted (MAY-2000) to the SWISS-PROT data bank.
-!- FUNCTION: THIS PROTEIN PROMOTES THE GTP-DEPENDENT TRANSLOCATION
OF THE NASCENT PROTEIN CHAIN FROM THE A-SITE TO THE P-SITE OF THE
RIBOSOME (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: Cytoplasmic.
-!- SIMILARITY: BELONGS TO THE GTP-BINDING ELONGATION FACTOR FAMILY.
EF-G/EF-2 SUBFAMILY.
                                                                                          EMBL; AE006493; AAK33347.1; -.
InterPro; IPR000640; EFG_C.
InterPro; IPR000795; GTP_EFTU.
InterPro; IPR004161; GTP_EFTU_D2
                                                                                                                                                                                                                                                                                                                                                                                                                     PARTIAL SEQUENCE, AND MASS SPECTROMETRY.
STRAIN-JRS4 / Serotype M6;
Hogan D.A., Du P., Stevenson T.I., Whitton M., Kilby
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacteria; Firmicutes; Bacillus/Clostridium group; Streptococcaceae;
Elongation
                                                                                                                                                                                                                                                                                                                                                                                                                                                         VanBogelen R.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=1314;
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POLG_PRSVH
POLG_PRSVH
YP74_MYCTU
EFG_BACSU
EFG_CHLMU
EFG_CHLMU
EFG_CHLTR
EFG_SPIPL
EFG_HAEIN
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                                                                                                                                                                                                                                                                                   EMBL; U08812; AAA73978.1; -.
PIR; S03268; S03268.
HSSP; P13551; 1FNM.
InterPro; IPR000640; EFG_C.
InterPro; IPR000795; GTP_EFTU_InterPro; IPR000795; GTP_EFTU_D2.
Pfam; PF00679; EFG_C; 1.
Pfam; PF00009; GTP_EFTU; 1.
Pfam; PF00144; GTP_EFTU_D2; 1.
PFAMT; PF0144; GTP_EFTU_D2; 1.
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INIT_MET
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Sanchez-Pescador R., Brown J.T., Roberts M., Urdea M.S.;
Sanchez-Pescador Revenue of the tetracycline resistance determinant tetm from Ureaplasma urealyticum.";
Nucleic Acids Res. 16:1216-1217(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAR-1989 (Rel. 10,
01-MAR-1989 (Rel. 10,
16-OCT-2001 (Rel. 40,
                                                                                                                                                                                                                                 Protein
                                                                                                                                                                                                                                                   PRINTS; PR00315; ELONGATNECT.
PROSITE; PS00301; EFACTOR_GTP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
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Bacteria; Firmicutes; Bacillus/Clostridium group; Mollicutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tetracycline resistance
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced through a ceen the Swiss Institute of Bioinformatics and the EMBL
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GTP (BY SIMILARITY).

8 GTP (BY SIMILARITY).

11 GTP (BY SIMILARITY).

12599 MW; Al497055BB182B3A C
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Pred. No.
                                                          Score 46; DB
Pred. No. 3.8;
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GTP
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GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
D59B857A2CDB40CD CR
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                                                 Query Match
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P33567;
01-FEB-1994
                                                                                                                                                                                            Pfam; PF01387; Synuclein; 1
PRINTS; PR01211; SYNUCLEIN.
ProDom; PD010631; Synucleir
                                                                                                                                                                                                                                                                                                 -II- FUNCTION: MAY BE INVOLVED IN NEURONAL
-II- SUBCELLULAR LOCATION: Cytoplasmic.
-II- TISSUE SPECIFICITY: SPECIFICALY PRESE
NEURONS BUT NOT IN GLIAL CELLS.
-II- PIM: PHOSPHORYLATED. PHOSPHORYLATION B
                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=94039126; pubMed=8223629;
Makajo S., Tsukada K., Omata K., Nakamura
"A new brain-specific 14-kDa protein is a
complete amino acid sequence and evidence
Eur. J. Blochem. 217:1057-1063(1993).
                                                                                                             REPEAT
MOD_RES
                                                                                                                                  REPEAT
                                                                                                                                                                                   ProDom; PD010631; Phosphorylation;
                                                                                                                                                                                                                                                          -!- SIMILARITY: BELONGS
PIR; A60218; A60218.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1994 (Rel.
01-FEB-1994 (Rel.
16-OCT-2001 (Rel.
                                                                                         SEQUENCE
                                                                                                                                                                                                                                     PIR; JU0238; JU0238.
PIR; S39046; S39046.
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                                                                                                                                                                                                                                                                                                                                                               protein."
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Nakaj Y., Nakaya K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoldea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Beta-synuclein (Phospecific protein).
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                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=91038084; PubMed=2230807;
                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Brain;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bovidae; Bovinae;
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105
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EPLIEPLMEPEGE
                  OPLLOVMMEPOGD
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el. 40, Last annotation update)
(Phosphoneuroprotein 14) (PNP
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                                                                                                                                                                                                                              Synuclein.
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                                                 . 28;
                                                                                                                                                                                                                                                                     TO THE SYNUCLEIN FAMILY
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                                       Score 44; DB Pred. No. 1.5; 6; Mismatches
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[EQ]-[GQ]-V-X(4).
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phosphoprotein. Its
for phosphorylation.";
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                                                                                                                                                                                                                                                                                                                                                                           brain-specific 14-kDa
                                                          Length 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (14 kDa
                                        Indels
                                                                                                              GRK2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                              Ochiai H.,
                                                                                                               AND
                                        0,
                                                                                                              GRK5)
                                        Gaps
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RESULT

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SYUB_HUMAN

SYUB_HUMAN

AC O16143

DT 01-NOV

DT 16-OCT

DE Beta-s

GNCB.
SNCB.
SSCB.
SS Homo s

OC EUKary

OC Mammall

OX NCBLIT

RN [1]

RN [2]

RP SEQUEN

RX JAKES

RT TAKES

RT TAKES

RI FEBS I

RN [2]

RP SEQUEN

RX MEDLIN

RA MISSAB

RT GENOMI

RN [3]

RP SEQUEN

RN [3]

RN [3]

RN [3]

RN [3]

RN [3]

RN [6]

CC -1- D

CC -1- S

CC -1- D

CC -1- S

CC -1- D

CC -1- D

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
Eukaryota; Metazoa; C
Mammalia; Eutheria; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   J. Biol. Chem. 275:26515-26522(2000).
-!- FUNCTION: MAY BE INVOLVED IN NEURONAL PLASTICITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pronin A.N., Morris A.J., Surguchov A., Benovic J.L.;
"Synucleins are a novel class of substrates for G protein-coupled receptor kinases.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Jakes R., Spillantini M.G., Goedert M.; "Identification of two distinct synucleins from FEBS Lett. 345:27-32(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
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01-NOV-1997
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                                                                                                                                  DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
MEDLINE=99026142; PubMed=9806846;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Beta-synuclein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q16143;
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                                                                                                                                                                                      PRINTS; PR01211; S
ProDom; PD010631;
                                                                                                                                                                                                                                                                                             MIM; 602569;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PHOSPHORYLATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genomics 54:173-175(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=94252398; PubMed=8194594;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-Brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9606;
                                                                                                                                  Phosphorylation;
DOMAIN 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SNCB)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Genomic organization and expression of the
                                                                                                                                                                                                                                                                  InterPro; IPR001058; Synuclein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AND CAM-KINASE II.

DISEASE: BRAIN IRON ACCUMULTION TYPE 1 (NBIA1, ALSO CALLED DISEASE: BRAIN IRON ACCUMULTION TYPE 1 (NBIA1, ALSO CALLED HALLERVORDEN-SPATZ SYNDROME), A RARE NEUROAXONAL DYSTROPHY, IS HISTOLOGICALLY CHARACTERIZED BY AXONAL SPHEROIDS, IRON DEPOSITION, LEWY BODY (LB)-LIKE INTRANEURONAL INCLUSIONS, GLIAL INCLUSIONS AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBCELLULAR LOCATION: Cytoplasmic.
TISSUE SPECIFICITY: EXPRESSED PREDOMINANTLY IN BRAIN; CONCENTRATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IN PRESYNAPTIC NERVE TERMINALS.
PTM: PHOSPHORYLATED. PHOSPHORYLATION
KINASES (GKR) IS MORE EFFICIENT THAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO THE SYNUCLEIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NEUROFIBRILLARY TANGLES. SNCB IS FOUND IN SPHEROIDS BUT NOT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INCLUSIONS.
                                                                                                                                                                                                                                                                                                                $69965; AAB30860.1; -.
AF053136; AAC80286.1; -.
AF053134; AAC80286.1; JC
AF053135; AAC80286.1; JC
                                                                                                                                                                                                         s; PR01211; SYNUCLEIN.
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                                                                                                                                  Repeat.
67
                                                                                                                                                                                      Synuclein; 1.
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Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND
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                                                                                                                                                                                                                                                                                                                   JOINED.
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                                                                                                       4 X 11 AA TANDEM [EQ]-[GQ]-V-X(4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                             (APPROXIMATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    134 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY G-PROTEIN COUPLED RE PHOSPHORYLATION BY CK1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human beta-synuclein gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dutra A.,
                                                                                                                                  REPEATS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human brain.";
                                                                                                                                  OĦ,
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                                                                                                                               [EGS]-K-T:K-
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SYUB_RAT
Q63754;
                                                                                                                                                                                                                                                                                                                         Nakajo S., Tsukada K., Omata K., Nakamura Y., Nakaya K.;
"A new brain-specific 14-kba protein is a phosphoprotein. Its complete amino acid sequence and evidence for phosphorylation.";
Eur. J. Biochem. 217:1057-1063(1993).
-!- FUNCTION: MAY BE INVOLVED IN NEURONAL PLASTICITY.
-!- TISSUE SPECIFICITY: EXPRESSED SPECIFICALLY IN BRAIN.
-!- PTM: PHOSPHORYLATED. PHOSPHORYLATION BY G-PROTEIN COUPLED RECEPTOR KINASES (GKR) IS MORE EFFICIENT THAN PHOSPHORYLATION BY CK1, CK2
AND CAM-KINASE II.
                                                                   REPEAT
REPEAT
                                                                                                                                                                                                         use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the El the European Bioinformatics Institute. There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Cloning and characterization of specific 14-kDa protein."; J. Neurochem. 59:1624-1629(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia; NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-OCT-2001 (Rel. 40, Last annotation update)
Beta-synuclein (Phosphoneuroprotein 14) (PNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOY-1997 (Rel. 35, Created)
01-NOY-1997 (Rel. 35, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation updat
       SEQUENCE
                                                                                                                                PRINTS; PR01211; S
ProDom; PD010631;
                                                                                                                                                        InterPro; IPR001058; Synu Pfam; PF01387; Synuclein;
                                                                                                                                                                                    EMBL; D17764; BAA04610.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.,
                                                         REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=94039126; PubMed=8223629;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tomita M., Nakamura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tobe T., Nakajo S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=93019240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus norvegicus (Rat).
                              MOD_RES
                                                                                                                    Phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        PHOSPHORYLATION BY CAM-KINASE II.
                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           105 EPLIEPLMEPEGE 117
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                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE SYNUCLEIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
6; Conserv
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134 AA;
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67
                                                                                                                                             SYNUCLEIN.
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                                                                                                                                 Synuclein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chordata;
       14504
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46.28;
                                                                                                                                                                       Synuclein.
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Pred. No.
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(BY SIMILARITY).
678C6CB84FA01A03 CRC64;
                   PHOSPHORYLATION (BY CK2, (BY SIMILARITY).
                                                                                           4 X 11 AA TANDEM REPEATS [EQ]-[GQ]-V-X(4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                       (APPROXIMATE).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Omata K., Nakaya K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          novel
                                 GRK2 AND
                                                                                                          OF [EGS]-K-T-K-
                                                                                                                                                                                                                                                             restrictions
                                                                                                                                                                                                                                                                          EMBL
                                                                                                                                                                                                                                                                             a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          brain-
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                                 GRK5)
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Best Local
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InterPro; IPR000795; GTP_EFTU
InterPro; IPR0004161; GTP_EFTU_D2.
Pfam; PF00679; EFG_C; 1.
Pfam; PF00009; GTP_EFTU; 1.
Pfam; PF00009; GTP_EFTU_D2; 1.
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TET9_ENTFA
P21598;
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SEQUENCE
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                                                                                                                                                                                                                                                          EMBL; X56353; CAA39796.1; PIR; S13142; S13142.
                                                                                                                                                                                                                                                                                                                                                                                                     "Nucleotide sequence of the tet(M) ge Nucleic Acids Res. 18:6137-6137(1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSPOSON-Tn916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TetM(916)).
TETM OR TET(M).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-1991 (Rel. 18, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Tetracycline resistance protein tetM from transposon Tn916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAY-1991 (Rel.
01-MAY-1991 (Rel.
16-OCT-2001 (Rel.
                                                                                                                                                     Transposable
                                                                                                                                                               Protein
                                                                                                                                                                         PROSITE;
                                                                                                                                                                                 PRINTS; PR00315;
                                                                                                                                                                                                                                                  HSSP; P13551; 1FNM
                                                                                                                                                                                                                                                                                                                                                                                                                        Burdett V.
                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=91045089; PubMed=2172929;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Enterococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Enterococcus faecalis
Bacteria; Firmicutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-1991
                            339
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                                                                          Local
                                              1 LQTPQPLLQVMMEP
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                                                                                                                                                                                                                                                                                                                                                                         FUNCTION: ABOLISH THE INHIBITORY EFFECT OF TETRACYCLIN ON PROTEIN SYNTHESIS BY A NON-COVALENT MODIFICATION OF THE RIBOSOMES.
SIMILARITY: BELONGS TO THE GTP-BINDING ELONGATION FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                  TETM/TETO SUBFAMILY.
                            IENPHPLLQTTVEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EPLIEPLMEPEGE 117
                                                                                                                                                             PR00315; ELONGATNFCT.
; PS00301; EFACTOR_GTP; 1.
biosynthesis; Antibiotic resistance;
                                                                 Similarity
7; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 6; Conserv
                                                                                                                128
639 /
                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                     element.
                                                                                                                 ΑA;
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78
131
72464
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18,
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                                                                         48.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Streptococcus faecalis).
Bacillus/Clostridium group;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
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                                                                                                                 MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 44; DB
Pred. No. 1.5;
6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6;
                                                                                                              GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
; B2315A37B53B18FB CRC64;
                                                                         Score 43; DB
Pred. No. 12;
                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                               gene of Tn916.";
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1.5;
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                                                                                  Length 639;
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EFG_AGRTU
ID EFG_A
AC P7078
AC P7078
DT 01-NC
DT 16-OC
DT 16-OC
DT Elong
GN FUSA.
OS Agrot
OC Bacte
OC Rhize
OX NCBI_
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                         01-NOV-1997
01-NOV-1997
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fam; PRUVULL.

'fam; PROJI4; GTP_EFTU___.

'fam; PROJI4; GTP_EFTU___.

PROSITE; PRO0315; ELONGATNECT.

PROSITE; PS00301; EFACTOR_GTP; 1.

PROSITE; PS00301; 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Cloning and nucleotide sequence of a chromosomally encoded tetracycline resistance determinant, tetk(M), from a pathogenimethicillin-resistant strain of Staphylococcus aureus."; Antimicrob. Agents Chemother. 34:2273-2276(1990).

- FUNCTION: ABOLISH THE INIBITIONY EFFECT OF TETRACYCLIN ON SYNTHESIS BY A NON-COVALENT MODIFICATION OF THE RIBOSOMES.

-1- SIMILARITY: BELONGS TO THE GTP-BINDING ELONGATION FACTOR F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TETM_STAAU
Q53770;
                                 Bacteria; Proteobacteria; Rhizobiaceae; Rhizobium.
                                                                                                                                                                                                                                                                                            EFG_AGRTU P70782;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M21136; AAA26678.1; -. HSSP; P13551; 1FNM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-DEC-1998
15-DEC-1998
15-DEC-1998
                                                                                                                                                              Elongation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000640;
InterPro; IPR000795;
InterPro; IPR004161;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. MEDLINE-91158314; PubMed-2073121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Staphylococcus aureus. Bacteria; Firmicutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tetracycline resistance TETM OR TETA(M).
                                                                                                   Agrobacterium tumefaciens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Projan S.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nesin M., Svec P., Lupski J.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=1280;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LQTPQPLLQVMMEP :: | | | | | : | |
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PF00009; GTP_EFTU; 1.
PF03144; GTP_EFTU_D2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity 7; Conserv
                                                                                                                                                                                         (Rel.
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                                                                                                                                                           35, Last sequence update) 40, Last annotation updat G (EF-G).
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                                                                  alpha
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                                                                                                                                                                                                                                                                                                                             PRT;
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                                                                  subdivision;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                update;
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(TetA(M)).
                                                                                                                                                                                                                                                                                                                             699
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                                                                     Rhizobiaceae
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                                                                  group;
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RESULT 9
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AC P52369
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Best Local S
Matches 7
SEQUENCE FROM N.A.

MEDILINE-95302501; PubMed-7783207;

Telford B.A., Watson M.S., Aird H.C., Perry J., Davison A.J.;

Telford B.A., Watson M.S., Aird H.C., Perry J., Davison A.J.;

Telford B.A., Watson M.S., Aird H.C., Perry J., Davison A.J.;

The DNA sequence of equine herpesvirus 2.";

J. Mol. Biol. 249:520-528(1995).

-!- FUNCTION: THE CAPSID ASSEMBLY PROTEIN IS COMPONENT OF THE CAPSID CORE INVOLVED IN PROCESSING AND PACKAGING OF PROGENY DNA.

-!- FUNCTION: ASSEMBLIN IS A PROTESSE WHICH CAN PROTEDLYTICALLY CLEAVE

-!- CATALYTIC ACTIVITY: PREFERENTIALLY CLEAVES AT ALA-|-SER OR ALA-|-

-!- CATALYTIC ACTIVITY: PREFERENTIALLY CLEAVES AT ALA-|-SER OR ALA-|-
                                                                                                                                                                                                                                             01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation updat
Capsid protein P40 [Contains: Assemblin (Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Elongation factor; Protein biosynthesis; GTP-binding NP_BIND 17 24 GTP (BY SIMILARITY). NP_BIND 86 90 GTP (BY SIMILARITY). NP_BIND 140 143 GTP (BY SIMILARITY). SEQUENCE 699 AA; 78044 MW; E72A1081DEC28E2B CRC6.
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PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro;
InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
MEDLINE=97047977; PubMed=8892818;
Syvanen A., Amiri H., Jamel A., A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       [1]
SEQUENCE
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01-OCT-1996
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                                                                                                                                                                        Gammaherpesvirinae.
NCBI_TaxID=82831;
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                                                                                                                                                                                                       Viruses; dsDNA viruses,
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                                                                                                                                                                                                                   Equine herpesvirus type
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUBCELLULAR LOCATION:
SIMILARITY: BELONGS TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EF-G/EF-2 SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OF THE NASCENT PROTEIN CHAIN FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION: THIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SWISS-PROT entry is copyright. It is produced through sen the Swiss Institute of Bioinformatics and the EM
                                                                                                                                                                                                                                                                                                                                                                                                         **: |:|::|:::|| :||
MEFPEPVIQIAIEPKTKGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pro; IPR000640; EFG_C.
Pro; IPR000795; GTP_EFTU.
Pro; IPR004161; GTP_EFTU_D2.
PF00679; EFG_C; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PF00009; GTP_EFTU; 1.
PF03144; GTP_EFTU_D2; 1.
TE; PS00301; EFACTOR_GTP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P13551;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 7; Conser
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86
140
699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disposition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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THIS PROTEIN PROMOTE
                                                                                                                                                                                                                                                                                                                                     STANDARD;
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2
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Best Local
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STRAIN-K12 / MG1655;

MEDLINE-97426617; PubMed-9278503;

MEDLINE-97426617; PubMedt G. III, Bloch C.A., Perna N.T., Burl Blattner F.R., Plunkett G. III, Bloch C.A., Rode C.K., Mayhew Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew Riley M., Collado-Vides J., Glasner J.D., Goeden M.A., Rose I Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose I
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Bacteria; Proteobacteria;
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Best Local
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PA8605; G9VER9;
O1-FEB-1996 (Rel. 34, Last sequence update)
O1-OCT-1996 (Rel. 34, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
T-complex protein 1, gamma subunit (TCP-1-gamma) (CCT-gamma).
CCT-GAMMA OR CCT-3 OR CCTG OR CC8977.
Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; MusccEphydroidea; Drosophila.
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MEDLINE=21156231; PubMed=11258796;

Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoya Hayashi T., Makino E., Nakayama K., Murata T., Tanaka M., Tobe Tida T., Takami H., Honda T., Sasakawa C., Ogasawara N., Yasunag Kuhara S., Shiba T., Hattori M., Shinagawa H.;

"Complete genome sequence of enterohemorrhagic Escherichia coli 0157:H7 and genomic comparison with a laboratory strain K-12.";

DNA Res. 8:11-22(2001).
  Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
                                                                                                            STRAIN-BERKELEY;
MEDLINE-20196006; PubMed-10731132;
                                                                                                                                                                                                                        Walkley N.A., Malik A.N.;
"Drosophila melanogaster P1 genomic chaperonin-encoding gene Cctg.";
Gene 171:221-223(1996).
                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. MEDLINE-96257223;
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Mathog D.R., Celniker S.E.
Submitted (JUL-1995) to th
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Hypothetical protein; Complete
SEQUENCE 78 AA; 8660 MW; 81
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                                                                                                                                                                                                                                                                                                                                    PubMed=8666276;
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., Lewis E.B., Palazzolo M.J.;
he EMBL/GenBank/DDBJ databases
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Pred. No. 2.
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88976DE22CA9024B CRC64;
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RA Ballew R.M., Basu A., Razendale J., Bayraktaroglu L., Beasley E.M.,
RA Beeson K.Y., Bencos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Berkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Dew I., Dietz S.M.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Dew I., Dietz S.M.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Dew I., Dietz S.M.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Dew I., Dietz S.M.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Well M.-H., Ibegwam C.,
RA Harris N.L., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA Kimmel B.E., Kodita C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Liu X., Mattel B., McIntosh T.C., McLeod M.P., McPherson D.,
RA Liu X., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhon M., Zhong R., Sun E.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhon M., Zhou X., Zho X., Smith H.O.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou X., Smith H.O.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou X., Smith H.O.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou X., Smith H.O.,
RA Zheng X.H., Zhong S., Shan M., Zhou X., Smith H.O.,
RA Zheng X.H., Zhong S., Stappelton W., Zhou X., Smith H.O.,
RA Zheng X.H., Zhong S., Sha
                   Query Match
Best Local
                                                                                                 Chaperone;
CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                            PROSITE; PS00750; TCP1_1; 1.
PROSITE; PS00751; TCP1_2; 1.
PROSITE; PS00995; TCP1_3; 1.
                                                                                                                                                                                                                                                                                                                                                                     EMBL; U31961; AAA84416.1; -
EMBL; X95602; CAA64860.1; -
EMBL; AE003714; AAF55350.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                            InterPro; IPR002423; TCP1_Cpn6
InterPro; IPR002194; TCP_1.
Pfam: Pf00118; cpn60_TCP1; 1.
PRINTS; PR00304; TCOMPLEXTCP1.
                                                                                                                                                                                                                                                                                                                               HSSP; P48424; 1A6D.
FlyBase; FBgn0015019; Cct-gamma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the European Bioinformatics Institute. The use by non-profit institutions as long
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Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R.,
Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBCELLULAR LOCATION: Cytoplasmic.
SIMILARITY: BELONGS TO THE TCP-1 CHAPERONIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATP HYDROLYSIS. KNOWN TO PLAY A ROLE, IN VITRO, I ACTIN AND TUBULIN.
SUBUNIT: HETERO-CLIGOMERIC COMPLEX OF ABOUT 850 TFORMS TWO STACKED RINGS, 12 TO 16 NM IN DIAMETER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SWISS-PROT entry is copyright. It is producen the Swiss Institute of Bioinformatics
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                 46.18;
46.28;
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                                                                                                      MW.
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S -> SD (IN REF. 2).
MISSING (IN REF. 1).
W; DD5E635809B322C2 (
Score 41; DB
Pred. No. 22;
5; Mismatches
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Baldwin D.,
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Best Local
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InterPro; IPR000795; GTP_EFTU
InterPro; IPR004161; GTP_EFTU_D2.
Pfam; pr00679; EFG_C; 1.
Pfam; pr00009; GTP_EFTU_D2; 1.
Pfam; pr00009; GTP_EFTU_D2; 1.
 TETM_STRPN
Q54807;
15-DEC-1998
15-DEC-1998
                                                                                                                                                                             NP_BIND
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collat between the Swiss Institute of Bioinformatics and the EMBL outset the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con entities requires a license agreement (See http://www.isb-sib.ch/ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TET5_ENT P11131;
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PROSITE; PS00301; EFACTOR_GTP; 1.
Protein biosynthesis; Antibiotic resistance;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ENTFA
                                           STRPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=87016342; PubMed=3020504;
                                                                                                                                                                                                                        Transposable element
                                                                                                                                                                                                                                                                                                                                         PIR; A24333; A24333.
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                                                                                                                                                                                                                                                                                                                                                                       or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TETM OR TET(M).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Firmicutes;
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                                                                                                        1 LQTPQPLLQVMMEP
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                                                                                     IENPLPLLQTTVEP
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                                                                                                                           7; Conserv
(Rel. 37, Created)
(Rel. 37, Last sequence update)
                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  faecalis
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72657
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                                                                                                                                      46.1%;
50.0%;
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Bacillus/Clostridium group;
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                                                                                                                           Score 41; DB
Pred. No. 26;
3; Mismatches
                                                                                                                             Ψ
                                                                                                                                                                             GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
; 2F7A3CD0588253CE CRC64;
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26;
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Q48791;
15-DEC-1998
15-DEC-1998
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NP_BIND
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEMS Microbiol. Lett. 135:231-236(1996).

-I- FUNCTION: ABOLISH THE INHIBITORY EFFECT OF TETRACYCLIN ON PROTEI SYNTHESIS BY A NON-COVALENT MODIFICATION OF THE RIBOSOMES.

-I- SIMILARITY: BELONGS TO THE GTP-BINDING ELONGATION FACTOR FAMILY.

TETM/TETO SUBFAMILY.
                                                           Plasmid pIP811.

Bacteria; Firmicutes; Bacillus/Staphylococcus
                                                                                                               Tetracycline resistance TETS OR TET(S).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00679; EFG_C; 1.
Pfam; PF00009; GTP_EFTU; 1.
Pfam; PF03144; GTP_EFTU_D2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X90939; CAA62436.1; -. HSSP; P13551; 1FNM. InterPro; IPR000640; EFG_C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      use by non-profit institutions as long modified and this statement is not removed entitles requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIINE=96162866; PubMed=8595862;
Provvedi R., Manganelli R., Pozzi G.;
"Characterization of conjugative transposon Tn5251 of Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Streptococcus pneumoniae.
Bacteria; Firmicutes; Bacillus/Clostridium group; Streptococcaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-DEC-1998 (Rel. 37, Last annotation update)
Tetracycline resistance protein tetM from transposon
TETM(5251).
             SEQUENCE FROM N.A. STRAIN=BM4210;
                                                                                                                                                                                                                                                                                                                                                                                                           Transposable
                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00301; EFACTOR_GTP; 1.
Protein biosynthesis; Antibiotic
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Interpro; IPR004161; GTP_EFTU_D2.
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MEDLINE=93380670; PubMed=8370538;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PR00315; ELONGATNFCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=1313;
                                                 NCBI_TaxID=1639;
                                                                                                  Listeria monocytogenes.
                                                                                                                                                                                                       LISMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                                                                                                                                       339 IENPLPLLQTTVEP
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                                                                                                                                                                                                                                                                               1 LQTPQPLLQVMMEP 14
                                                                                                                                                                                                                                                                                                        Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                     128
639 i
                                                                                                                                      (Rel. 37, Created)
(Rel. 37, Last sequence update)
(Rel. 37, Last annotation updat
                                                                                                                                                                                                                                                                                                        Conservative
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50.0%;
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78
                                                                           Bacillus/Clostridium
                                                             group;
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GTP (BY SIMILARITY).
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TP (BY SIMILARITY).
F18131E08B81F3C0 CRC64;
                                                              Listeria
                                                                                                                                                                                                                                                                                                          Mismatches
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                                                                                                                           n update)
(Tet(S))
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RESULT
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InterPro; IPR0004161; GTP_EFTU_D2.
Pfam; PF00679; EFG_C; 1.
Pfam; PF00009; GTP_EFTU; 1.
Pfam; PF00009; GTP_EFTU_D2; 1.
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
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Bacteria; Firmicutes;
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PROSITE; PS00301; EFACTOR_GTP; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID-1360;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lactococcus
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SIMILARITY: BELONGS TO THE GTP-BINDING ELONGATION FACTOR FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               641 AA;
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Result
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89
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) Q9FXA2
Q9S4T6
) Q94IQ3
) Q9M6E4
Q57224
Q9AC90
Q67709
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Q9U558
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Q928G4
Q97SQ3
Q97S745
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Q9JLQ4
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Q928g4 listeria in
Q928g4 listeria in
Q97sq3 streptococc
Q35745 mus musculu
Q9ept3 mus musculu
Q91q4 mus musculu
Q91zz3 mus musculu
                           Q57224 enterococcu
Q9ac90 clostridium
                                                                                                                                                                                                 Q9u558 plasmodium
Q9n959 trypanosoma
                                                                                                                                             Q9s4t6 neisseria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Description
                                                                                    Q94iq3 anemia phyl
Q9m6e4 nicotiana t
                                                                                                                                                                     Q9fxa2 arabidopsis
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4	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
40.5	40.5	40.5	40.5	41	41	41	41	41	41	41	41	41	42	42	42	42	42	42	42	42	43	43	43	43	43	43	43	43
40.0	45.5	45.5	45.5		46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1	47.2		47.2	47.2	47.2	47.2	47.2	47.2	48.3	48.3	48.3	48.3	48.3	48.3		48.3
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C69797	Q9QUH9	Q9UE65	Q63419	P76578	Q9VMB4	Q9F4B2	Q9M549	Q9M6E6	Q94GP3	030707	Q9M6E5	Q29136	014440	Q9KUZ7	023173	Q93K56	Q04134	Q66620	Q55136	Q28442	Q9SRK1	P89471	004498	P92948	Q92QH2	Q92715	Q932I8	067710
Q62695 Factus norv	Q9quh9 mus musculu	homo	Q63419 rattus norv	P76578 escherichia	Q9vmb4 drosophila	Q9f4b2 bacillus st	Q9m549 cucumis sat	Q9m6e6 nicotiana t	Q94gp3 oryza sativ	030707 streptomyce	Q9m6e5 nicotiana t	Q29136 tapirus ind	Ol4440 yarrowia li	Q9kuz7 vibrio chol	O23173 arabidopsis	Q93k56 fusobacteri	Q04134 drosophila	Q66620 equine herp	σ	Q28442 hippopotamu	Q9srkl arabidopsis	P89471 herpes simp	004498 arabidopsis	P92948 arabidopsis			Q932i8 staphylococ	Q67710 gardnerella

ALIGNMENTS

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RESULT
Q9CDG1
            Qy
                                                                                                        Query Match
Best Local S
Matches 6
                                                                                              InterPro; IPR000640; EFG_C.
InterPro; IPR000795; GTP_EFTU.
Pfam; PF00679; EFG_C; 1.
PRINTS; PR00315; ELONGATMRCT.
Complete proteome; GTP-binding.
SECUENCE 709 AA; 77955 MW; 1EAD29D65A748032 CRC64;
                                                                                                                                                                                 Bolotin A., Wincker P., Mauger S., Jaillon O., Malarme K., Weissenbach J., Ehrlich S.D., Sorokin A.; "The complete genome sequence of the lactic acid bacterium Lactococc lactis ssp. lactis IL1403."; Genome Res. 11:731-753(2001).
-I- SIMILARITY: BELONGS TO THE GTP-BINDING ELONGATION FACTOR FAMILY. EMBL; AE006455; AAK06358.1; -.
HSSP; P13551; IDAR.
                                                                                                                                                                                                                                                                                                                                                                                                                           O9CDG1;
01-JUN-2001 (TrEMBLrel. 17,
01-JUN-2001 (TrEMBLrel. 17,
01-DEC-2001 (TrEMBLrel. 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9CDG1
                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. STRAIN-IL1403;
                                                                                                                                                                                                                                                                                                                                                                         Lactococcus lactis (subsp. lactis) (Streptococcus lactis).
Bacteria; Firmicutes; Bacillus/Clostridium group; Streptococcaceae;
                                                                                                                                                                                                                                                                                                                                                                                                      FUSA.
                                                                                                                                                                                                                                                                                         MEDLINE-21235186; PubMed-11337471;
                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=1360;
                                                                                                                                                                                                                                                                                                                                                              Lactococcus
                                                                                                                                                                                                                                                                                                                                                                                                                 ELONGATION FACTOR G.
1 LQTPQPLLQVMMEPQ 15 :: |:|::|:||:
                                      Similarity 40.6; Conservative
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                                                    53.9%;
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Last sequence update)
Last annotation update)
                                      Score 48; DB Pred. No. 11; 8; Mismatches
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Best Local
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STRAIN-TIGR4;
STRAIN-TIGR4;
MEDLINE-21357209; PubMed-11463916;
Tettelin H., Nelson K.E., Paulisen I.T., Eisen J.A., Read T.D.,
Peterson S., Heidelberg J., DeBoy R.T., Haft D.H., Dodson R.J.,
Peterson S., Gwinn M., Kolonay J.F., Nelson W.C., Peterson J.D.,
Durkin A.S., Gwinn M., Kolonay J.F., Lewis M.R., Radune D.,
Umayam L.A., White O., Salzberg S.L., Lewis M.R., Radune D.,
Holtzapple E., Khouri H., Wolf A.M., Utterback T.R., Hansen C.L.,
McDonald L.A., Feldblyum T.V., Angitoli S., Dickinson T., Hickey
Holt I.E., Loftus B.J., Yang F., Smith H.O., Venter J.C.,
Holt I.E., Loftus B.J., Morrison D.A., Hollingshead S.K., Fraser C.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Q97SQ3;
Q97SQ3;
Q1-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-DEC-2001
01-DEC-2001
                                                                                                                                                                                                                                                                                            Streptococcus pneumoniae. Bacteria; Firmicutes; Bac Streptococcus.
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Bacteria; Firmicutes; Be
Bacillus/Staphylococcus
NCBI_TaxID=1642;
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01-DEC-2001
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01-DEC-2001
                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                           NCBI_TaxID=1313;
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N ELONGATION FACTOR G
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1 (TrEMBLrel.
1 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
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Pred. No. 3.5;
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Query Match
Best Local S
Matches 9
                                                                                                                                                                                   STRAIN-BALB/C; TISSUE-PITUITARY GLAND;
Spengler D., Villalba M., Hoffmann A., Pantaloni C., I
Spengler D., Villalba M., Hoffmann A., Pantaloni C., I
Spengler D., Journot L.;
Schmitted (JAN-1998) to the EMBL/GenBank/DDBJ database
-1 - SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
EMBL; X95503; CAA64757.1;
EMBL; X95504; CAA64758.1;
RMGD; MGI:1100874; Zacl.
InterPro; IPR000822; Zni-C2H2.
Pfam; PF00096; zi-C2H2; 7.
PRINTS; PR00048; ZINCFINGER.
SMART; SM00355; Zne_C2H2; 7.
PROSITE; PS00175; ZINC_FINGER_C2H2_1; 7.
PROSITE; PS00175; ZINC_FINGER_C2H2_2; 6.
DNA-binding; Metal-binding; Nuclear protein; Zinc-fing DNA-binding; Metal-binding; Me
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O35745;
O1-JAN-1998
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ZINC FINGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN-BALB/C; TISSUE-PITUITARY GLAND;
MEDLINE-97327559; PubMed-9184226;
Spengler D., Villalba M., Hoffmann A.,
Bockaert J., Journot L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Regulation of apoptosis and finger protein expressed in tEMBO J. 16:2814-2825(1997).
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InterPro; IPR000795;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TIGR;
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EMBL; AE007340; AAK74451.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                400
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PF00009; GTP_EFTU; 1.
PF03144; GTP_EFTU_D2; 1.
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Similarity
9; Conserv
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6; Conserv
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(TrEMBLrel. 05, Last sequence update)
(TrEMBLrel. 19, Last annotation update)
PROTEIN REGULATOR OF APOPTOSIS AND CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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GTP_EFTU.
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60
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Score 45; DB Pred. No. 32; 1; Mismatches
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Pred. No.
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RESULT

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"Identification of a splice variant of mouse Lotl gene.";

Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.

R EMBL; AF324471; AAG46331.1; -.

R MGD; MGI:1100874; Zacl.

R InterPro; ITR000822; Znf-C2H2.

R Pfam; PF00095; Zf-C2H2; 7.

R SMART; SM00355; ZnF_C2H2; 7.

R PROSITE; PS00038; ZINC_FINGER_C2H2_1; 1.

R PROSITE; PS00158; ZINC_FINGER_C2H2_2; 6.

R PROSITE; PS0157; ZINC_FINGER_C2H2_2; 6.

W DNA-Dinding; Metal-Dinding; Zinc-finger.

Q SEQUENCE 675 AA; 76109 MW; 0F467D165CA5B097 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9JLQ4;
01-OCT-2000
01-OCT-2000
01-DEC-2001
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01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
LOST ON TRANSFORMATION PROTEIN 1.
ZAC1 OR LOT1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDITANE-20065118; pubMed-10597250;
Abdollahi A., Bao R., Hamilton T.C.;
*LOTI is a growth suppressor gene down-regulated by t growth factor receptor ligands and encodes a nuclear
                                                                                                  SEQUENCE FROM N.A.
MEDILINE=20136063; PubMed=10669760;
Huang S.-M., Stallcup M.R.;
"Mouse Zacl, a Transcriptional Coactivator and
                                                                                                                                                                                                                                                                                                               Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse).
Eukaryota; Metazoa; C
Mammalia; Eutheria; R
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MEDLINE-20065118;
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                                        Receptors.";
Mol. Cell. B
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nes 9; Conserv
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       AF147785;
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0 (TrEMBLrel. 15,
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R PROTEIN ZAC1.
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   AAF34245.1; -.
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Rodentia;
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Pred. No.
                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Sciurognathi; Muridae;
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Q9U558;
Q1-MAY-2000
Q1-MAY-2000
Q1-DEC-2001
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01-DEC-2001
01-DEC-2001
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InterPro; IPR00082; Znf-C2H2.
Pfam; PF00096; zf-C2H2; 7.
SMART; SM00355; ZnF-C2H2; 7.
SMART; SM00355; ZnF-CH2; 7.
PROSITE; PS00028; ZINC_FINGER_C2H2_1; 7.
PROSITE; PS50157; ZINC_FINGER_C2H2_2; 6.
DNA-binding; Metal-binding; Zinc-finger.
DNA-binding; Metal-binding; Zinc-finger.
SEQUENCE 704 AA; 79214 MW; 3AF88262D504FA80 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mouse beta-synuclein, a candidate for in neurodegeneration.";
Cytogenet. Cell Genet. 93:117-123(2001).
EMBL; AF348164; AAK83238.1; -
EMBL; AF348165; AAK83238.1; JOINED.
EMBL; AF348165; AAK83238.1; JOINED.
EMBL; AF3481663; AAK83238.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                          Plasmodium vivax.
Eukaryota; Alveolata;
NCBI_TaxID=5855;
                                                                                                                                                                                 MEROZOITE SURFACE MSP-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BETA-SYNUCLEIN.
                       STRAIN-KPV97-73;
Kim S.H., Kwon S.I.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sopher B.L., Koszdin K.L., Smith A.C., La Spada A.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE-21367613; PubMed-11474193;
                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Genomic organization,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10090;
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                                                                                                                                                                                                                                                                                                                                                                                                                                      104
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9; Conserv
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                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
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                                                                                                                                      Apicomplexa;
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a candidate for involvement
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Pred. No.
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Pred. No. 9
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red. No. 9.2;
Mismatches
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34;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 133;
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01-OCT-2000 (TrembLrel. 15, C

01-OCT-2000 (TrembLrel. 15, L

01-OCT-2000 (TrembLrel. 15, L

POSSIBLE HYPOTHETICAL 14.6 KD

CHR1.04.
                             SEQUENCE FROM N.A.

Federspiel N.A., Palm C.J., (
Altafi H., Araujo R., Huizar
Gonzalez A., Kremenetskaia I.
                                                                                                                                                                                                                                                                                                               O9FXA2 PRELIMINARY; PRT; 671 AA.
O9FXA2;
O1-MAR-2001 (TrEMBLrel. 16, Created)
O1-MAR-2001 (TrEMBLrel. 19, Last sequence up
O1-DEC-2001 (TrEMBLrel. 19, Last annotation
PUTATIVE POLY-A BINDING PROTEIN.
E14J22.3.
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Hall N., Bowman S., Quall M., Ivens A.C., Kay Lennard N.J., Clark L.N., Harris B.R., Melvill Gerrard C., Rajandream M.A., Barrell B.G.;
Submitted (JUN-2000) to the EMBL/GenBank/DDBJ EMBL; AL359782; CAB95318.1; -
SEQUENCE 227 AA; 26099 MW; AAF344E1959DDIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NON_TER
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EMBL; AF09
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                                                                                                                                                                                            Arabidopsis thaliana (Mouse-ear cress).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheop Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Trypanosoma brucei.
Eukaryota; Euglenoz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Euglenozoa;
NCBI_TaxID=5691;
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                                                                                                                                                                        NCBI_TaxID=3702;
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8; Conserv
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182 AA;
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19514 MW;
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56
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the EMBL/GenBank/DDBJ databases
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5, Last sequence upo
5, Last annotation upo
6 KDA PROTEIN.
                          Conway A.B., Conn L., Hansen
r L., Rowley D., Buehler E., I
I., Kim C., Lenz C., Li J., Li
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Pred. No.
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., melville S.
B.G.;
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16;
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                                , Dunn P
                                      N.F.,
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EMBL; AC011807; AAG13056.1; -.
EMBL; AF370517; AAK43894.1; -.
InterPro: Tracon...
                                                                                                                                   NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                       Ferreira E., Louro D., Gomes J.P., Catry M.A., Vaz Pa "Surveillance of tetracycline-resistant gonzei in of a TRNG strain with tetracycline MIC-2 mg/L."; Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databas EMBL; AF116348; AAD48368.1; -
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01-MAY-2000 (TrEMBLrel. 13, Last sequence up
01-DEC-2001 (TrEMBLrel. 19, Last annotation
TETRACYCLINE RESISTANCE PROTEIN (FRAGMENT).
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Pfam; PF00076; rrm; 4.

PRINTS; PR00961; HUDSXLRNA.

SMART; SM00517; PolyA; 1.

SMART; SM00360; RRM; 4.

SMART; SM00361; RRM, 1; 4.

PROSITE; PS01020; RRM; 4.

PROSITE; PS00030; RRM_RNP_1; UNKNOWN_1.

PROSITE; PS00030; RRM_RNP_1; UNKNOWN_1.
                                                                                                                                                                                                                                InterPro; IPR000795; GTP_EFTU.D1.
InterPro; IPR004161; GTP_EFTU_D2.
Pfam; PF00309; GTP_EFTU; 1.
Pfam; PF03144; GTP_EFTU_D2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria; Proteobacteria; NCBI_TaxID=485;
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                                                                                                                                                                                                            Cyclin;
                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=TRNG 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Neisseria gonorrhoeae
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                                                                                                                                                                                                          GTP-binding.
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IPR002004; PABP.
IPR000504; RRM.
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252
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29007 MW;
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46.78;
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Last sequence update)
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                     Score 43; DB Pred. No. 26; 3; Mismatches
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01-DEC-2001
01-DEC-2001
01-DEC-2001
                                                                                                                                                                   InterPro;
InterPro;
                                                                                                                                                                                                                                                    plants.";
Plant Sci
                                                                                                                                                                                                                                                                                                                                                                            Nicotiana tabacum (Common tobacco).
Eukaryota; Viridiplantae; Etreptophyta; Embryo
Spermatophyta; Magnoliophyta; eudicotyledons;
Asteridae; euasterids I; Solanales; Solanaceae
NCBI_TaxID=4097;
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01-OCT-2000 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
                                                                                                                                                                                                        Plant Sci. 152:101-114(2000).
EMBL; AF190657; AAF66825.1; -.
HSSP; P11940; 1CVJ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases EMBL; AY030359; AAK51123.1; -.
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                                                                              Pfam; PF00076; rrm; 2.
SMART; SM00517; PolyA; 1.
SMART; SM00360; RRM; 2.
                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
Le H., Gallie D.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE 472 AA; 51880 MW;
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Filicophyta; Filicopsida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POLYADENYLATED
                                     PROSITE; PS50102; RRM; 2. PROSITE; PS00030; RRM_RNP_1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PABP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POLY(A) - BINDING PROTEIN (FRAGMENT).
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                                                                                                                                                Pfam; PF00658; PABP;
                                                                                                                                                                                                                                                                                                  "Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=12940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Anemia phyllitidis (Fern)
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les 8; Conserv
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IPR000504; RRM.
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l (TremBLrel. 19,
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19,
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  WW.
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Last annotation update)
PROTEIN 2 (FRAGMENT)
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  A2C3F46C3D688A12 CRC64;
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No.
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49;
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Query Match

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RESULT
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Matches 8; Conserv
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Best Local
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STRAIN-DS16; TRANSPOSON=TNJL),
STRAIN-DS16; TRANSPOSON=TNJL),
SU Y.A., He P., Clewell D.B.;
SU Y.A., He P., Clewell D.B.;
"Characterization of the tet(M) determinant of Tn916: evidence regulation by transcription attenuation.";
regulation by transcription attenuation.";
arents Chemother. 36:769-778(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q57224
Q57224;
Q57224;
Q57224;
Q57224;
                                                                                                                                    Pfam; PF00009; GTP_EFTU; 1.
Pfam; PF03144; GTP_EFTU_D2; 1.
PRINTS; PR00315; ELONGATNFCT.
                                                                                                                                                                                 InterPro; IPR000640;
InterPro; IPR000795;
InterPro; IPR004161;
                                                                                                                                                                                                                    EMBL; U09422; AAB60022.1; -. EMBL; M85225; AAA24784.1; -. HSSP; P13551; 1FNM.
                                                                                                                                                                                                                                         EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                       Su y.A., Clewell D.B.;
"Characterization of the left 4 kb of "Characterization of the excision.";
determinants involved in excision.";
Plasmid 30:234-250(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 636-639 FROM N.A. STRAIN=DS16; TRANSPOSON=TN916; MEDLINE=94134828; PubMed=8302931;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Nucleotide sequence of the 18-kb conjugative transposon Tn916 from Enterococcus faecalis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-DS16; TRANSPOSON-TN916;
MEDLINE-95207419; PubMed-7899523;
Flannagan S.E., Zitzow L.A., Su Y.A., Clewell D.B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Enterococcus faecalis
Bacteria; Firmicutes;
Enterococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TET.
                                                                                                   GTP-binding.
SEQUENCE (
                                                                                                                                                                       Pfam; PF00679; EFG_C;
                                                                                                                                                                                                                                                     Submitted (MAY-1994) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                 Clewell D.B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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                                                                                                                          PROSITE; PS00301;
                                                                                                                                                                                                                                                                            STRAIN-DS16; TRANSPOSON-TN916;
                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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 339
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                     1 LQTPQPLLQVMMEP 14
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IENPHPLLQTTVEP
                                           Similarity 50.07; Conservative
                                                                                                   639
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                                                                                                                          EFACTOR_GTP;
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; GTP_EFTU_D2.
                                                     48.3%;
50.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Streptococcus faecalis).
Bacillus/Clostridium group;
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19,
                                                                                                    MW:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
Last sequence update)
Last annotation update)
                                            Score 43; DB
Pred. No. 67;
3; Mismatches
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                                                                Length 639
                                                                                                    CRC64;
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RESULT OPERACES OF ACT 
Search completed: July 31, 2002, 15:27:00 Job time: 213 sec
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                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RA Roberts A.P., Johanesen P.A., Lyras D., Mullany P., Rood J.I.;

Tomparison of Th5397 from Clostridium difficile, Tn916 from

Tenterococcus faecalis and the CW459tet(M) element from Clostridium

Perfringens shows that they have similar conjugation regions but

Microbiology 147:1243-1251(2001).

REMBL; AF329948; AAK17952.1; -.

REMBL; AF329948; AAK17952.1; -.

RINTEPTO; IPR000795; GTP_ETU.

RINTEPTO; IPR000795; GTP_ETU_D2.

RINTEPTO; IPR004161; GTP_ETU_D2.

REMBL; AF000095; GTP_ETU_D2.

REMBL; PF00095; GTP_ETU_D2.

REMBL; PF000095; GTP_ETU_D2.

REMBL; AF000031; GTP_ETU_D2; 1.

REMBL; AF000031; EFACTOR_GTP; 1.

REMBL; AF000315; ELONGATOR_GTP; 1.

REMBL; AF000315; ELONGATOR_GTP; 1.

REMBL; AF000315; ELONGATOR_GTP; 1.
                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 50.0
Matches 7; Conservative
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09AC90; O1-JUN-2001 (TrEMBLrel 17, Created)
01-JUN-2001 (TrEMBLrel 17, Last sequence update)
01-DEC-2001 (TrEMBLrel 19, Last annotation update)
TET(M).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Clostridium perfringens.
Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridiaceae; Clostridium.
                                                                                                                                                                               1 LQTPQPLLQVMMEP 14 :: | | | | | : | | 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.

TRANSPOSON-CW459TET(M);

MEDLINE-2122075; PubMed-11320127;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=1502;
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                                                                                                                                                                                                                                                                                                                               Score 43; DB 2; Pred. No. 67; 3; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                         Length 639;
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